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Nasdaq Capital Market commencing upon the Company's initial public offering on May 12, 2023. The accompanying consolidated financial statements and notes to consolidated financial statements give retroactive effect to the reverse stock split for all periods presented. The reverse stock split did not change the number of authorized shares of common stock or its par value. A (2) Revenue A The Company generates most of its revenue from license and royalty arrangements. At inception of each contract, the Company identifies the goods and services that have been promised to the customer and each of those that represent a distinct performance obligation, determines the transaction price including any variable consideration, allocates the transaction price to the distinct performance obligations and determines whether control transfers to the customer at a point in time or over time. Variable consideration is included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. The Company reassesses its reserves for variable consideration at each reporting date and makes adjustments, if necessary, which may affect revenue and earnings in periods in which any such changes become known. A See Note 7 for a description of the Verity License Agreement. See Note 11 for a description of the agreement with Spriaso, a related party. A License Fees A For distinct license performance obligations, upfront license fees are recognized when the Company satisfies the underlying performance obligation. Performance obligations under these licenses, which consist of the right to use the Company's proprietary technology, are satisfied at a point in time corresponding with delivery of the underlying technology rights to the licensee, which is generally upon transfer of the licensed technology/product to the customer. In addition, license arrangements may include contingent milestone payments, which are due following achievement by our licensee of specified sales or regulatory milestones and the licensee and/or Company will fulfill its performance obligation prior to achievement of these milestones. Because of the uncertainty of the milestone achievement, and/or the dependence on sales of our licensee, variable consideration for contingent milestones is fully constrained and is not recognized as revenue until the milestone is achieved by our licensee, to the extent collectability is reasonably certain. A Royalties A Royalties revenue consists of sales-based and minimum royalties earned under license agreements for our products. Sales-based royalties revenue represents variable consideration under license agreements and is recognized in the period a customer sells products incorporating the Company's licensed technologies/products. The Company estimates sales-based royalties revenue earned but unpaid at each reporting period using information provided by the licensee. The Company's license arrangements may also provide for minimum royalties, which the Company recognizes upon the satisfaction of the underlying performance obligation, which generally occurs with delivery of the underlying technology rights to the licensee. Sales-based and minimum royalties are generally due within 45 days after the end of each quarter in which they are earned. A Revenue Concentration A A major partner is considered to be one that comprises more than 10% of the Company's total revenues. For the three months ended September 30, 2024, the Company did not recognize any royalty revenue relating to the Verity License Agreement. For the nine months ended September 30, 2024, the Company recognized licensing revenue of \$7.5 million relating to the Verity License Agreement and royalty revenue of approximately \$140,000 relating to the Verity License Agreement. The revenue recognized in 2024 was 99% from one major customer, Verity Pharma. For the three and nine months ended September 30, 2023, the Company recognized a reversal of revenue relating to variable consideration of the Antares License Agreement of approximately \$3.1 million due to the termination of the License Agreement. In addition, the Company recognized license revenue of \$55,000 in the nine months ended September 30, 2023, which was 100% from a related-party, Spriaso. A 8 A (3) Loss per Share A Basic earnings (loss) per share is calculated by dividing net income (loss) available to common shareholders by the weighted average number of common shares outstanding during the period. Diluted earnings (loss) per share is based on the weighted average number of common shares outstanding plus, where applicable, the additional potential common shares that would have been outstanding related to dilutive options, warrants and unvested restricted stock units to the extent such shares are dilutive. A The following table sets forth the computation of basic and diluted earnings (loss) per share of common stock for the three and nine months ended September 30, 2024 and 2023:

	Schedule of Computation of Basic and Diluted Earnings (Loss) Per Share of Common Stock	A 2024	A 2023	A 2024	A 2023
Three Months Ended September 30,	Nine Months Ended September 30,	A 2024	A 2023	A 2024	A 2023
Basic loss per share attributable to common stock:		\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,829)
Diluted loss per share attributable to common stock:		\$ (0.41)	\$ (1.26)	\$ (0.33)	\$ (2.68)
Diluted loss per share attributable to common stock:		\$ (0.41)	\$ (1.26)	\$ (0.33)	\$ (2.68)
Effect of dilutive securities on net loss:		\$ (2,356,899)	\$ (6,725,797)	\$ (1,787,411)	\$ (14,270,245)
Weighted avg. common shares outstanding:		5,347,940	5,292,058	5,335,941	5,254,116
Total shares for purpose of calculating diluted net loss per common share:		5,347,940	5,292,058	5,335,941	5,254,116
Diluted loss per share attributable to common stock:		\$ (0.44)	\$ (1.27)	\$ (0.33)	\$ (2.72)

The computation of diluted loss per share for the three and nine months ended September 30, 2024 and 2023 does not include the following stock options and warrants to purchase shares of common stock or unvested restricted stock units in the computation of diluted loss per share because these instruments were antidilutive: A Schedule of Anti-dilutive Securities Excluded from Computation of Earnings Per Share A For the Three and Nine Months Ended September 30, A 2024 A 2023 A Stock options A 286,484 A 264,069 A Unvested restricted stock units A 21,762 A 9 Warrants A 49,333 A 49,433 A 9 A (4) Marketable Investment Securities A The Company has classified its marketable investment securities as available-for-sale securities, all of which are debt securities. These securities are carried at fair value with unrealized holding gains and losses, net of the related tax effect, included in accumulated other comprehensive income (loss) in stockholders' equity until realized. Gains and losses on investment security transactions are reported on the specific-identification method. Dividend income is recognized on the ex-dividend date and interest income is recognized on an accrual basis. The amortized cost, gross unrealized holding gains, gross unrealized holding losses, and fair value for available-for-sale securities by major security type and class of security as of September 30, 2024, and December 31, 2023, were as follows:

	Schedule of Available for Sale Securities	September 30, 2024	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Aggregate Fair Value	
Government treasury bills		\$16,070,749	\$9,942	\$16,080,691	\$16,070,749	\$9,942	
U.S. government agency securities		\$2,983,999	\$1,315	\$2,982,684	\$17,256,529	\$8,574	
Maturities of debt securities classified as available-for-sale securities as of September 30, 2024 are as follows:							
Schedule of Maturities of Debt Securities Classified as Available-for-Sale Securities		September 30, 2024	Amortized Cost	Aggregate Fair Value	Due within one year	\$16,070,749	
There were no sales of marketable investment securities during either the three or nine months ended September 30, 2024 and 2023 and therefore no realized gains or losses. Additionally, during the three months ended September 30, 2024 and 2023, \$6.7 million and \$6.0 million of marketable investment securities matured, and during the nine months ended September 30, 2024 and 2023, \$24.9 million and \$23.9 million of marketable securities matured, respectively. The Company determined there were no other-than-temporary impairments for either the three or nine months ended September 30, 2024 and 2023.		(5) Fair Value A The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. The Company determines fair value based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels: A Level 1 Inputs: Quoted prices for identical instruments in active markets. A Level 2 Inputs: Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-derived valuation in which all significant inputs and significant value drivers are observable in active markets. A Level 3 Inputs: Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are unobservable. A All of the Company's financial instruments are valued using quoted prices in active markets or based on other observable inputs. For accrued interest income, prepaid and other current assets, accounts payable, and accrued expenses, the carrying amounts approximate fair value because of the short maturity of these instruments. The following table presents the placement in the fair value hierarchy of assets and liabilities that are measured at fair value on a recurring basis as of September 30, 2024 and December 31, 2023:					
Schedule of Fair Value, Assets and Liabilities Measured on Recurring Basis		September 30, 2024	A Level 1 inputs	A Level 2 inputs	A Level 3 inputs	Cash equivalents - money market funds	
Cash equivalents - money market funds		\$3,742,941	\$3,742,941	-	-	Government treasury bills	
Government treasury bills		\$16,080,691	-	-	-	Warrant liability	
Warrant liability		\$17,166	-	-	-	Cash equivalents - money market funds	
Cash equivalents - money market funds		\$4,695,491	\$4,695,491	-	-	U.S. government agency securities	
U.S. government agency securities		\$2,982,684	\$2,982,684	-	-	Warrant liability	
Warrant liability		\$17,166	-	-	-	Cash equivalents	
Cash equivalents		\$17,166	\$17,166	-	-	Liabilities	
Liabilities		\$17,166	-	-	-	Assets	
Assets		\$17,166	\$17,166	-	-	Level 1 inputs	
Level 1 inputs		\$17,166	\$17,166	-	-	Level 2 inputs	
Level 2 inputs		\$17,166	\$17,166	-	-	Level 3 inputs	
Level 3 inputs		\$17,166	\$17,166	-	-	Level 1 inputs	
Level 1 inputs		\$17,166	\$17,166	-	-	Level 2 inputs	
Level 2 inputs		\$17,166	\$17,166	-	-	Level 3 inputs	
Level 3 inputs		\$17,166	\$17,166	-	-	Level 1 inputs	
Level 1 inputs		\$17,166	\$17,166	-	-	Level 2 inputs	
Level 2 inputs		\$17,166	\$17,166	-	-	Level 3 inputs	
Level 3 inputs		\$17,166	\$17,166	-	-	Level 1 inputs	
Level 1 inputs		\$17,166	\$17,166	-	-	Level 2 inputs	
Level 2 inputs		\$17,166	\$17,166	-	-	Level 3 inputs	
Level 3 inputs		\$17,16					

recognized a reversal of variable consideration for minimum guaranteed royalties of \$3.1 million during the three months ended September 30, 2023. Under the Antares License Agreement, the Company recognized revenue of approximately \$67,000 during the nine months ended September 30, 2024 and recognized a reversal of variable consideration for minimum guaranteed royalties of \$3.1 million during the nine months ended September 30, 2023. The Company does not expect to receive any further royalties under the Antares License Agreement in the future. (c)Abbott Products, Inc. On March 29, 2012, the Company terminated its collaborative agreement with Solvay Pharmaceuticals, Inc. (later acquired by Abbott Products, Inc. (the "Abbott")) for TLANDO. As part of the termination, the Company reacquired the rights to the intellectual property from Abbott. All obligations under the prior license agreement have been completed except that Lipocine will owe Abbott a perpetual 1% royalty on net sales. Such royalties are limited to \$1.0 million in the first two calendar years following product launch, after which period there is not a cap on royalties and no maximum aggregate amount. If generic versions of any such product are introduced, then royalties are reduced by 50%. TLANDO was commercially launched on June 7, 2022. The Company incurred royalty expense of approximately \$0 and \$9,000 during the three months ended September 30, 2024 and 2023, respectively, and approximately \$16,000 and \$22,000 during the nine months ended September 30, 2024 and 2023, respectively. (d) Contract Research and Development The Company has entered into agreements with various contract organizations that conduct pre-clinical, clinical, analytical and manufacturing development work on behalf of the Company as well as a number of independent contractors and primarily clinical researchers who serve as advisors to the Company. The Company incurred expenses of \$740,000 and \$2.1 million, respectively, for the three months ended September 30, 2024 and 2023, respectively, and \$3.7 million and \$5.9 million for the nine months ended September 30, 2024 and 2023, respectively, under these agreements and has recorded these expenses in research and development expenses. (13) (a) Leases The Company has a non-cancelable operating lease for office space and laboratory facilities in Salt Lake City, Utah. The term of the lease has been extended through February 28, 2025. Future minimum lease payments under the non-cancelable operating lease as of September 30, 2024 are: (i) Schedule of Future Minimum Rental Payments for Operating Leases (ii) Operating Leases (iii) Leases (iv) Year ending December 31: (v) 2024 \$92,019 2025 \$61,346 Total minimum lease payments \$153,365 (vi) The Company's rent expense was \$92,000 and \$89,000 for the three months ended September 30, 2024 and 2023, respectively. The Company's rent expense was \$274,000 and \$266,000, for the nine months ended September 30, 2024, respectively. (9) Stockholders' Equity On May 10, 2023, the Company's Board approved a reverse stock split ratio of 1-for-17. The Company filed the Amendment to its Certificate of Incorporation with the Secretary of State of the State of Delaware on May 10, 2023, and the Amendment became effective at 5:00 p.m. Eastern Time on Thursday, May 11, 2023. The Company's shares began trading on a split-adjusted basis on the Nasdaq Capital Market commencing upon market open on May 12, 2023. All common stock share data and per share price data of the Company reflect the reverse stock split effective May 11, 2023. The Company is authorized to issue up to 200,000,000 shares of its common stock, par value \$0.0001. (a) Issuance of Common Stock On April 26, 2024, the Company entered into a sales agreement with A.G.P. (the "A.G.P. Sales Agreement") pursuant to which the Company may issue and sell, from time to time, shares of its common stock having an aggregate offering price of up to the amount the Company registered on an effective registration statement pursuant to which the offering is being made. The Company currently has registered 10,616,169 shares of common shares for sale under the Sales Agreement, pursuant to the Registration Statement on Form S-3, as amended (File No. 333-275716) (the "Form S-3a"), through A.G.P. as the Company's sales agent. A.G.P. may sell the Company's common stock by any method permitted by law deemed to be an "at the market offering" as defined in Rule 415(a)(4) of the Securities Act, including sales made directly on or through the Nasdaq Capital Market or any other existing trade market for our common stock, in negotiated transactions at market prices prevailing at the time of sale or at prices related to prevailing market prices, or any other method permitted by law. A.G.P. will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell shares under the A.G.P. Sales Agreement. The Company will pay A.G.P. 3.0% of the aggregate gross proceeds from each sale of shares under the A.G.P. Sales Agreement. In addition, the Company has also provided A.G.P. with customary indemnification rights. The shares of the Company's common stock to be sold under the A.G.P. Sales Agreement will be sold and issued pursuant to the Form S-3, as amended, which was previously declared effective by the Securities and Exchange Commission, and the related prospectus and one or more prospectus supplements. The Company is not obligated to make any sales of its common stock under the A.G.P. Sales Agreement. The offering of common stock pursuant to the A.G.P. Sales Agreement will terminate upon the termination of the A.G.P. Sales Agreement as permitted therein. The Company and A.G.P. may each terminate the A.G.P. Sales Agreement at any time upon ten days' prior notice. As of September 30, 2024, the Company had not sold any shares under the A.G.P. Sales Agreement. (14) (a) Previously, on March 6, 2017, the Company entered into a sales agreement (the "Cantor Sales Agreement") with Cantor Fitzgerald & Co. (the "Cantor") pursuant to which the Company could issue and sell, from time to time, shares of its common stock having an aggregate offering price of up to the amount the Company registered on an effective registration statement pursuant to which the offering was made. As of September 30, 2024, the Company had sold an aggregate of 996,821 shares at a weighted-average sales price of \$33.62 per share under the At the Market Offering (the "ATM Offering") Cantor Sales Agreement, for aggregate gross proceeds of \$33.5 million and net proceeds of \$32.4 million, after deducting sales agent commission and discounts and other offering costs. During the three and nine months ended September 30, 2024, the Company sold 0 and 32,110 shares of its common stock pursuant to the Cantor Sales Agreement. On April 24, 2024 the Cantor Sales Agreement was terminated. (b) Series B Preferred Stock On March 7, 2023, the Board of the Company declared a dividend of one one-thousandth (1/1,000th) of a share of Series B Preferred Stock, par value \$0.0001 per share (the "Series B Preferred Stock"), for each outstanding share of common stock of the Company, to stockholders of record on March 24, 2023. The Certificate of Designation of Series B Preferred Stock (the "Certificate of Designation") was filed with the Delaware Secretary of State and became effective on March 10, 2023. The dividend was based on the number of shares of outstanding common stock on March 24, 2023, and resulted in 88,511 Series B Preferred shares being issued. Each whole share of Series B Preferred Stock entitled the holder thereof to 1,000,000 votes per share, and each fraction of a share of Series B Preferred Stock had a ratable number of votes. Thus, each one-thousandth of a share of Series B Preferred Stock was entitled to 1,000 votes. The outstanding shares of Series B Preferred Stock were entitled to vote together with the outstanding shares of common stock as a single class exclusively with respect to any proposal to adopt an amendment to the Company's Amended and Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), to effect a reverse stock split of the outstanding shares of Common Stock at a ratio determined in accordance with the terms of such amendment (the "Reverse Stock Split"), and (ii) any proposal to adjourn any meeting of stockholders called for the purpose of voting on the Reverse Stock Split (the "Adjournment Proposal") in conjunction with the Company's 2023 annual meeting of stockholders. All shares of Series B Preferred Stock that were not present in person or by proxy at the 2023 annual meeting as of immediately prior to the opening of the polls (the "Initial Redemption Time") were automatically redeemed by the Company without further action on the part of the Company or the holder of shares of Series B Preferred Stock (the "Initial Redemption"). The remaining shares of Series B Preferred Stock that were not redeemed pursuant to the Initial Redemption were redeemed automatically upon the effectiveness of the amendment to the Certificate of Incorporation implementing the Reverse Stock Split (the "Subsequent Redemption"). Each "beneficial owner" (as such terms are defined in the Certificate of Designation with respect to the Series B Preferred Stock) of shares of Series B Preferred Stock redeemed in the redemptions described above has the right to receive an amount equal to \$0.01 in cash for each ten whole shares of Series B Preferred Stock that were "beneficially owned" by the beneficial owner as of immediately prior to the applicable redemption time and redeemed pursuant to such redemption, payable upon receipt by the Company of a written request submitted by the applicable beneficial owner to the corporate secretary of the Company following the applicable redemption time. The Series B Preferred Stock was not convertible into, or exchangeable for, shares of any other class or series of stock or other securities of the Company. The Series B Preferred Stock had no stated maturity and was not subject to any sinking fund. The Series B Preferred Stock was not subject to any restriction on the redemption or repurchase of shares by the Company while there is any arrearage in the payment of dividends or sinking fund installments. The Company was not solely in control of the redemption of the shares of Series B Preferred Stock prior to the annual meeting of stockholders since the holders had the option of deciding whether to vote in respect of the above-described Reverse Stock Split, which determined whether a given holder's shares of Series B Preferred Stock was redeemed in the Initial Redemption or the Subsequent Redemption. Since the redemption of the Series B Preferred Stock was not solely in the control of the Company, the shares of Series B Preferred Stock were classified within the mezzanine equity in the Company's unaudited consolidated statement of stockholders' equity. Upon issuance, the shares of Series B Preferred Stock were measured at redemption value. As of May 10, 2023, all shares of Series B Preferred Stock had been redeemed by the Company. (15) (a) (i) Rights Agreement On November 13, 2015, the Company and American Stock Transfer & Trust Company, LLC, as Rights Agent, entered into a Rights Agreement. Also on November 12, 2015, the Board of the Company authorized and the Company declared a dividend of one preferred stock purchase right (each a "Right") and collectively, the "Rights") for each outstanding share of common stock of the Company. The dividend was payable to stockholders of record as of the close of business on November 30, 2015 and entitles the registered holder to purchase from the Company one one-thousandth of a fully paid non-assessable share of Series A Junior Participating Preferred Stock of the Company at a price of \$63.96 per one-thousandth share (the "Purchase Price"). The Rights will generally become exercisable upon the earlier to occur of (i) 10 business days following a public announcement that a person or group of affiliated or associated persons has become an Acquiring Person (as defined below) or (ii) 10 business days (or such later date as may be determined by action of the Board prior to such time as any person or group of affiliated or associated persons becomes an Acquiring Person) following the commencement of, or announcement of an intention to make, a tender offer or exchange offer the consummation of which would result in the beneficial ownership by a person or group of 15% or more of the outstanding common stock of the Company. Except in certain situations, a person or group of affiliated or associated persons becomes an "Acquiring Person" upon acquiring beneficial ownership of 15% or more of the outstanding shares of common stock of the Company. In general, in the event a person becomes an Acquiring Person, then each Right not owned by such Acquiring Person will entitle its holder to purchase from the Company, at the Right's then current exercise price, in lieu of shares of Series A Junior Participating Preferred Stock, common stock of the Company with a market value of twice the Purchase Price. In addition, if after any person has become an Acquiring Person, (a) the Company is acquired in a merger or other business combination, or (b) 50% or more of the Company's assets, or assets accounting for 50% or more of its earning power, are sold, leased, exchanged or otherwise transferred (in one or more transactions), proper provision shall be made so that each holder of a Right (other than the Acquiring Person, its affiliates and associates and certain transferees thereof, whose Rights became void) shall thereafter have the right to purchase from the acquiring corporation, for the Purchase Price, that number of shares of common stock of the acquiring corporation which at the time of such transaction would have a market value of twice the Purchase Price. The Company will be entitled to redeem the Rights at \$0.001 per Right at any time prior to the time an Acquiring Person becomes such. The terms of the Rights are set forth in the Rights Agreement, which is summarized in the Company's Current Report on Form 8-K dated November 13, 2015. The rights plan was originally set to expire on November 12, 2018; however, on November 5, 2018 our Board approved an Amended and Restated Rights Agreement pursuant to which the expiration date was extended to November 5, 2021, and again on November 2, 2021, the Company adopted a Second Amended and Restated Rights Agreement pursuant to which the expiration date was extended to November 1, 2024. On October 22, 2024, the Company adopted a Third Amended and Restated Rights Agreement pursuant to which the expiration date was extended to October 22, 2027, unless the rights are earlier redeemed or exchanged by the Company. (d) Share-Based Payments The Company recognizes stock-based compensation expense for grants of stock option awards, restricted stock units and restricted stock under the Company's Incentive Plan to employees, nonemployees and nonemployee members of the Company's Board based on the grant-date fair value of those awards. The grant-date fair value of an award is generally recognized as compensation expense over the award's requisite service period. In addition, the Company has granted performance-based stock option awards and restricted stock units, which vest based upon the Company satisfying certain performance conditions. Potential compensation cost, measured on the grant date, related to these performance options will be recognized only if, and when, the Company estimates that these options or units will vest, which is based on whether the Company considers the performance conditions to be probable of attainment. The Company's estimates of the number of performance-based options or units that will vest will be revised, if necessary, in subsequent periods. (16) (a) The Company uses the Black-Scholes model to compute the estimated fair value of stock option awards. Using this model, fair value is calculated based on assumptions with respect to (i) expected volatility of the Company's common stock price, (ii) the periods of time over which employees and members of the board of directors are expected to hold their options prior to exercise (expected term), (iii) expected dividend yield on the Common Stock, and (iv) risk-free interest rates. Stock-based compensation expense also includes an estimate, which is made at the time of grant, of the number of awards that are expected to be forfeited. This estimate is revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Stock-based compensation cost that has been expensed in the statements of operations amounted to approximately \$108,000 and \$158,000, respectively, for the three months ended September 30, 2024 and 2023, and approximately \$309,000 and \$501,000, respectively, for the nine months ended September 30, 2024 and 2023, and is allocated as follows: (i) Schedule of Employee Service Share-based Compensation, Allocation of Recognized Period Costs (ii) 2024 2023 (iii) Three Months Ended September 30 (iv) Nine Months Ended September 30 (v) 2024 2023 (vi) Research and development \$58,168 \$92,034 (vii) General and administrative \$49,726 \$66,056 (viii) Total \$107,894 \$158,090 (ix) 2024 2023 (x) The Company issued 0 stock options, during each of the three months ended September 30, 2024 and 2023, and issued 34,446 and 26,467 stock options, respectively, during the nine months ended September 30, 2024 and 2023. (y) Key assumptions used in the determination of the fair value of stock options granted are as follows: (i) Expected Term: The expected term represents the period that the stock-based awards are expected to be outstanding. The expected term was estimated using the average of the contractual term and the vesting period of the stock option. For awards with performance conditions, and that have the contractual term to satisfy the performance condition, the contractual term was used. (ii) Risk-Free Interest Rate: The risk-free interest rate used was based on the implied yield currently available on U.S. Treasury issues with an equivalent remaining term. (iii) Expected Dividend: The expected dividend assumption is based on management's current expectation about the Company's anticipated dividend policy. The Company does not anticipate declaring dividends in the foreseeable future. (iv) Expected Volatility: The volatility factor is based solely on the Company's trading history. (v) For options granted during the nine months ended September 30, 2024 and 2023, the Company calculated the fair value of each option grant on the respective dates of grant using the following weighted average assumptions: (i) Schedule of Key Assumption of Fair Value of Stock Options Granted (ii) 2024 2023 (iii) Expected term 5.76 years 5.73 years (iv) Risk-free interest rate 4.32% 4.37% (v) Expected dividend yield 0.00% 0.00% (vi) Expected volatility 97.78% 98.97% (vii) The Company recognizes compensation expense for the portion of options that are expected to vest. Therefore, the Company applied estimated forfeiture rates that were derived from historical employee termination behavior. If the actual number of forfeitures differs from those estimated by management, additional adjustments to compensation expense may be required in future periods. (viii) As of September 30, 2024, there was approximately \$278,000 of total unrecognized compensation cost related to unvested stock option compensation granted under the Company's stock option plan. That cost is expected to be recognized over a weighted average period of 0.7 years and will be adjusted for subsequent changes in estimated forfeitures. Additionally, as of September 30, 2024, there was \$74,000 of total unrecognized compensation costs related to unvested restricted stock units that have either time-based or performance vesting. (ix) Stock Option Plan In April 2014, the Board adopted the 2014 Stock and Incentive Plan (the "2014 Plan") subject to shareholder approval which was received in June 2014. The 2014 Plan provides for the granting of nonqualified and incentive stock options, stock appreciation rights, restricted stock units, restricted stock and dividend equivalents. An aggregate of 58,823 shares were authorized for issuance under the 2014 Plan. Additionally, 15,994 remaining authorized shares under the 2011 Equity Incentive Plan (the "2011 Plan") were issuable under the 2014 Plan at the time of the 2014 Plan adoption. Upon receiving shareholder approval in June 2016, the 2014 Plan was amended and restated to increase the authorized number of shares of common stock of the Company issuable under all awards granted under the 2014 Plan from 74,817 to 145,405. Additionally, upon receiving shareholder approval in June 2018, the 2014 Plan was further amended and restated to increase the authorized number of shares of common stock of the Company issuable under all awards granted under the 2014 Plan from 145,405 to 189,522. Upon receiving shareholder approval in June 2020, the 2014 Plan was further amended and restated to increase the authorized number of shares of common stock of the Company issuable under all awards granted under the 2014 Plan from 189,522 to 336,582. In June 2024, the 2014 Plan was further amended and restated to increase the authorized number of shares of common stock of the Company issuable under all awards granted from 336,582 to 600,000. The Board, on an option-by-option basis, determines the number of shares, exercise price, term, and vesting period for options granted. Options granted generally have a ten-year contractual life. The Company issues shares of common stock upon the exercise of options with the

of those shares of common stock being either newly issued shares or shares held in treasury. An aggregate of 600,000 shares of common stock are authorized for issuance under the 2014 Plan, with 266,079 shares remaining available for grant as of September 30, 2024.

17. A summary of stock option activity is as follows:

	A Schedule of Stock Option Activity						
Outstanding stock options	Number of shares	Weighted average exercise price	Balance at December 31, 2023	\$34.21A	Options granted	\$34.446A	\$4.77A
Options exercised	-	-	(10,209)A	\$142.99A	Balance at September 30, 2024	\$286.484A	\$26.79A
Options exercisable at September 30, 2024	\$224.430A	\$32.33A	The following table summarizes information about stock options outstanding and exercisable at September 30, 2024:				

Schedule of Share-based Compensation of Stock Options Outstanding and Exercisable

	A Options outstanding	A Number outstanding	A Weighted average remaining contractual life (Years)	A Weighted average exercise price	A Aggregate intrinsic value	A Number exercisable	A Weighted average remaining contractual life (Years)	A Weighted average exercise price	A Aggregate intrinsic value
	\$286.484A	\$6.50A	\$26.79A	\$13.069A	\$224.430A	\$5.85A	\$32.33A	\$-A	The intrinsic value for stock options is defined as the difference between the current market value and the exercise price. There were 0 stock options exercised during either the three or nine months ended September 30, 2024 or 2023.

18. A summary of restricted stock unit activity is as follows:

	A Number of Unvested Restricted Stock Units	A Balance at December 31, 2023	A Granted	A Vested	A Cancelled																				
A - Balance at September 30, 2024	\$21.762A	There were no restricted stock units awarded during either the three months ended September 30, 2024 or 2023. There were 21,762 and 0 restricted stock units awarded during the nine months ended September 30, 2024 and 2023, respectively. The weighted average grant date fair value of restricted stock units awarded during the nine months ended September 30, 2024 was \$3.61 per share.	(g)Common Stock Warrants	The Company accounts for its common stock warrants under ASC 480, Distinguishing Liabilities from Equity, which requires any financial instrument, other than an outstanding share, that, at inception, embodies an obligation to repurchase the issuer's equity shares, or is indexed to such an obligation, and requires or may require the issuer to settle the obligation by transferring assets, to be classified as a liability. In accordance with ASC 480, the Company's outstanding warrants from the November 2019 Offering are classified as a liability. The liability is adjusted to fair value at each reporting period, with the changes in fair value recognized as gain (loss) on change in fair value of warrant liability in the Company's consolidated statements of operations. The warrants issued in the November 2019 Offering allow the warrant holder, if certain change in control events occur, the option to receive an amount of cash equal to the value of the warrants as determined in accordance with the Black-Scholes option pricing model with certain defined assumptions upon a fundamental transaction. As of September 30, 2024, the Company had 64,362 common stock warrants outstanding from the November 2019 Offering to purchase an equal number of shares of common stock. The fair value of these warrants on September 30, 2024 and on December 31, 2023 was determined using the Black-Scholes option pricing model with the following Level 3 inputs (as defined in the November 2019 Offering):	A Schedule of Fair Value of Warrants	A September 30, 2024	A December 31, 2023	A Expected life in years	A 0.13A	A 0.88A	Risk-free interest rate	A 4.87%A	A 4.79%	Dividend yield	A 0.00A	A 0.00A	Volatility	A 107.82%A	A 100.00%	Stock price	\$4.49A	\$2.79A			
		During the three and nine months ended September 30, 2024, the Company recorded non-cash gains of approximately \$138,000 and \$13,600, respectively, from the change in fair value of the November 2019 Offering warrants. During the three and nine months ended September 30, 2023, the Company recorded non-cash gains of approximately \$75,000 and \$200,000, respectively, from the change in fair value on the November 2019 Offering warrants. The following table is a reconciliation of the warrant liability measured at fair value using level 3 inputs:	A Schedule of Reconciliation of Warrant Liability	A Warrant Liability	A Balance at December 31, 2023	\$17,166A	Change in fair value of common stock warrants	A (13,580)	Balance at September 30, 2024	\$3,586A															
	19	A Additionally, in an offering in February 2020, the Company issued 296,593 common stock warrants. However, because these warrants do not provide the warrant holder the option to put the warrant back to the Company, the warrants are classified as equity. As of September 30, 2024, and 2023, there were 49,433 warrants outstanding that were issued in February 2020. A The following table summarizes the number of common stock warrants outstanding and the weighted average exercise price:	A Schedule of Number of Warrants Outstanding and the Weighted Average Exercise Price	A Warrants	A Weighted Average Exercise Price	A Outstanding at December 31, 2023	\$113,795A	\$8.72A	Issued	A -A	A -A	A -A	A -A	A Expired	A -A	A -A	A Cancelled	A -A	A -A	A Forfeited	A -A	A -A	Balance at September 30, 2024	\$113,795A	\$8.72A
		There were no common stock warrants exercised during either the three or nine months ended September 30, 2024 or 2023. A The following table summarizes information about common stock warrants outstanding at September 30, 2024:	A Schedule of Common Stock Warrants Outstanding	Warrants outstanding	Number exercisable	Weighted average remaining contractual life (Years)	A Weighted average exercise price	A Aggregate intrinsic value	A \$113,795A	A 0.25A	\$8.72A	\$-A	(10)	Commitments and Contingencies	A Litigation	The Company is involved in various lawsuits, claims and other legal matters from time to time that arise in the ordinary course of conducting business. The Company records a liability when a particular contingency is probable and estimable. On November 14, 2019, the Company and certain of its officers were named as defendants in a purported shareholder class action lawsuit, Solomon Abady v. Lipocine Inc. et al., 2:19-cv-00906-PMW, filed in the United District Court for the District of Utah. The complaint alleges that the defendants made false and/or misleading statements and/or failed to disclose that the Company's filing of the NDA for TLANDO to the FDA contained deficiencies and as a result the defendants' statements about our business and operations were false and misleading and/or lacked a reasonable basis in violation of federal securities laws. The lawsuit sought certification as a class action (for a purported class of purchasers of the Company's securities from March 27, 2019 through November 8, 2019), compensatory damages in an unspecified amount, and unspecified equitable or injunctive relief. The Company has insurance that covers claims of this nature. The retention amount payable by the Company under its policy is \$1.25 million. The Company filed a motion to dismiss the class action lawsuit on July 24, 2020. In response, the plaintiffs filed their response to the motion to dismiss the class action lawsuit on September 22, 2020 and the Company filed its reply to its motion to dismiss on October 22, 2020. A hearing on the motion to dismiss occurred on January 12, 2022. On April 14, 2023, a judgment was issued ordering the case dismissed with prejudice and closure of the action. A 20	A The Company is not currently aware of any matter, individually or in the aggregate, that could have a material adverse effect on our financial condition, liquidity, or results of operations. A Guarantees and Indemnifications	In the ordinary course of business, the Company enters into agreements, such as lease agreements, licensing agreements, clinical trial agreements, and certain services agreements, containing standard guarantee and / or indemnification provisions. Additionally, the Company has indemnified its directors and officers to the maximum extent permitted under the laws of the State of Delaware. A (11) Agreement with Spriaso, LLC	The Company has a license and a services agreement with Spriaso, a related-party that is majority-owned by certain current and former directors of Lipocine Inc. and their affiliates. Under the license agreement, the Company assigned and transferred to Spriaso all of the Company's rights, title and interest in its intellectual property to develop products for the cough and cold field. In addition, Spriaso received all rights and obligations under the Company's product development agreement with a third-party. In exchange, the Company will receive a royalty of 20 percent of the net proceeds received by Spriaso, up to a maximum of \$10.0 million. Spriaso also granted back to the Company an exclusive license to such intellectual property to develop products outside of the cough and cold field. The Company also agreed to continue providing up to 10 percent of the services of certain employees to Spriaso for a period of time. The agreement to provide services expired in 2021; however, it may be extended upon written agreement of Spriaso and the Company. During the three and nine months ended September 30, 2024, the Company did not receive any revenue from Spriaso. During the three and nine months ended September 30, 2023, the Company received licensing revenue from Spriaso of \$0 and approximately \$55,000, respectively. Spriaso filed its first NDA and as an affiliated entity of the Company, it used up the one-time waiver for user fees for a small business submitting its first human drug application to the FDA. Spriaso is considered a variable interest entity under the FASB ASC Topic 810-10, Consolidations, however the Company is not the primary beneficiary and has therefore not consolidated Spriaso. A (12) Recent Accounting Pronouncements	A Accounting Pronouncements Issued Not Yet Adopted	In November 2023, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures, which enhances reporting requirements under Topic 280. The enhanced disclosure requirements include: title and position of the Chief Operating Decision Maker (the CODM), significant segment expenses provided to the CODM, extending certain annual disclosures to interim periods, clarifying single reportable segment entities must apply ASC 280 in its entirety, and permitting more than one measure of segment profit or loss to be reported under certain circumstances. This change is effective for fiscal years beginning after December 15, 2023 and interim periods beginning after December 15, 2024. This change will apply retrospectively to all periods presented. Management is currently assessing the impact of the adoption of this ASU on the financials statements of the Company. A (13) Subsequent Events	In September 2024, the Company entered into a Distribution and License Agreement (the SPC License Agreement) with SPC Korea Limited (the SPC), pursuant to which the Company granted to SPC a non-transferable, exclusive, royalty-bearing license to commercialize the Company's TLANDO® product with respect to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone, as indicated in a New Drug Application (NDA) No. 208088, treatment of Klinefelter syndrome, and pediatric indications relating to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone (the Efficacy), specific to the country of South Korea (the SPC Territory). A SPC paid the Company a one-time non-refundable, non-creditable upfront fee in October 2024. The Company is eligible to receive additional payments including a non-refundable, non-creditable prepayment in consideration for TLANDO product inventory, marketing authorization and sales milestones, and the Company will supply TLANDO to SPC and receive a supply price. In addition, the Company will receive royalties on net sales in the SPC Territory. A In October 2024, the Company entered into a distribution and supply agreement (the PharmedLink License Agreement) with PharmedLink, pursuant to which the Company granted to PharmedLink a non-transferable, exclusive, license to commercialize the Company's TLANDO® product with respect to the Field, specific to the Gulf Cooperation Council (GCC), including Saudi Arabia, Kuwait, the United Arab Emirates (UAE), Qatar, Bahrain, and Oman (the GCC Territory). A PharmedLink paid the Company a one-time non-refundable, non-creditable upfront fee. The Company is eligible to receive additional payments in regulatory authorization milestones related to the GCC under the PharmedLink License Agreement and the Company will supply TLANDO to PharmedLink at an agreed transfer price. A On October 22, 2024, the Company adopted a Third Amended and Restated Stockholder Rights Agreement in order to extend the expiration date of the stockholder rights plan until October 22, 2027. Other than extending the expiration date of the Rights Agreement, no material changes have been made to the prior stockholder rights plan. See Footnote 9(c) Stockholder's Equity, Rights Agreement. A 21	A ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	The following discussion of our financial condition and results of operations should be read in conjunction with our unaudited condensed consolidated financial statements and the related notes thereto and other financial information included elsewhere in this report. For additional context with which to understand our financial condition and results of operations, see management's discussion and analysis of financial condition and results of operations included in our annual report on Form 10-K for the year ended December 31, 2023, filed with the SEC on March 7, 2024 (the 2023 Form 10-K), our quarterly report on Form 10-Q for the period ended March 31, 2024 filed with the SEC on May 9, 2024 (the 2024 March 10-Q), our	

the U.S. and Canada (the “Licensed Verity Territory”), to SPC for commercialization in South Korea (the “SPC Territory”) and to Pharmalink in the GCC (the “Pharmalink Territory”). We plan to support Verity Pharma’s, SPC’s and Pharmalink’s efforts to effectively enable the availability of TLANDO to patients in a timely manner, in addition to receiving milestone and royalty payments associated with TLANDO commercialization as agreed to in the Verity License Agreement, the SPC License Agreement, and the Pharmalink License Agreement. A 23 “Develop partnership(s) to continue the advancement of pipeline assets. We continuously strive to prioritize our resources in seeking partnerships for our pipeline assets. We are currently exploring partnerships for our liver programs LPCN 1144, our candidate for treatment of non-cirrhotic NASH and LPCN 1148 for the management of decompensated cirrhosis including prevention of the recurrence of overt hepatic encephalopathy (OHE), LPCN 2401 for improved body composition in obesity management as an adjunct therapy to or as a monotherapy post cessation of incretin mimetics use, and LPCN 1107, our candidate for prevention of pre-term birth. We are also exploring the possibility of licensing LPCN 1021 (known as TLANDO in the United States) to third parties outside of the Licensed Verity Territory, the SPC Territory and the Pharmalink Territory, although as of the date of this report, no licensing agreement has been entered into by the Company in any other territories. A Our Pipeline Product Candidates A Our pipeline of clinical development candidates includes LPCN 1154 for PPD, LPCN 2101 for epilepsy, LPCN 2203 for essential tremor, and LPCN 2401 as an aid for improved body composition in obesity management. We will continue to explore other product development candidates targeting CNS indications with a significant unmet need. We will also continue efforts to enter into partnership arrangements for the continued development and/or marketing of LPCN 1144, LPCN 1148, LPCN 2401, LPCN 1107 as well as for the TRT assets outside of the Licensed Verity Territory, the SPC Territory, and the Pharmalink Territory. A Our products are based on our proprietary Lipid™ drug delivery technology platform. Lipid™-based TLANDO was approved by the FDA in March 2022. Lipid™ technology is a patented technology based on lipidic compositions which form an optimal dispersed phase in the gastrointestinal environment for improved absorption of insoluble drugs. The drug loaded dispersed phase presents the solubilized drug efficiently at the absorption site (gastrointestinal tract membrane) thus improving the absorption process and making the drug less dependent on physiological variables such as dilution, gastro-intestinal pH and food effects for absorption. Lipid™-based formulation enables improved solubilization and higher drug-loading capacity, which can lead to improved bioavailability, reduced dose, faster and more consistent absorption, reduced variability, reduced sensitivity to food effects, improved patient compliance, and targeted lymphatic delivery where appropriate. A TRT Franchise “ TLANDO and LPCN 1111 (TLANDO XR) A TLANDO: An Oral Product for Testosterone Replacement Therapy A As previously described, under the Verity License Agreement, in January 2024, we granted to Verity Pharma an exclusive, royalty-bearing, sublicenseable right and license to develop and commercialize TLANDO, our product for TRT, in the U.S. and Canada effective February 1, 2024. TLANDO received FDA approval on March 28, 2022. Any FDA requirement to conduct certain post-marketing studies will be the responsibility of Verity Pharma. In addition, in September 2024, we granted SPC an exclusive, royalty-bearing license to commercialize TLANDO in South Korea and in October 2024 we granted Pharmalink an exclusive license to commercialize TLANDO in the GCC countries. A Proof-of-concept for TLANDO was initially established in 2006, and TLANDO was subsequently licensed in 2009 to Solvay Pharmaceuticals, Inc., which was then acquired by Abbott Products, Inc. (Abbott). Following a portfolio review associated with the spin-off of AbbVie Inc. by Abbott in 2011, the rights to TLANDO were reacquired by us. All obligations under the prior license agreement have been completed except that Lipocine will owe Abbott a perpetual 1% royalty on net sales of TLANDO. Such royalties are limited to \$1 million in the first two calendar years following product launch, after which period there is no cap on royalties and no maximum aggregate amount. If generic versions of any such product are introduced, then royalties are reduced by 50%. TLANDO was commercially launched on June 7, 2022. During the nine months ended September 30, 2024 and 2023, we incurred royalty expense of approximately \$16,000 and \$22,000, respectively. A Since TLANDO received full FDA approval, under the terms of the Verity License Agreement, Verity Pharma will need to assess the safety and effectiveness of TLANDO in pediatric patients, as required by the Pediatric Research Equity Act. The FDA may also require certain post-marketing studies to be conducted which will also be the responsibility of Verity Pharma. Similarly, SPC and Pharmalink are responsible for obtaining any regulatory/marketing approvals for TLANDO required for the SPC Territory and the Pharmalink Territory, respectively. A Upon execution of the Verity License Agreement, Verity Pharma paid us an initial payment of \$2.5 million which was received on signing of the License Agreement and \$5 million which was received on February 1, 2024. Verity Pharma is also required to make an additional payment of \$2.5 million to us before January 1, 2025, and an additional payment of \$1 million to us before January 1, 2026. We are also eligible to receive milestone payments of up to \$259 million in the aggregate, depending on the achievement of certain sales milestones in a single calendar year and/or development milestones with respect to products licensed by Verity Pharma under the Verity License Agreement. In addition, we will receive tiered royalty payments at rates ranging from 12% up to 18% of net sales of all products licensed under the Verity License Agreement in the Licensed Verity Territory. A 24 “A SPC paid us a non-refundable, non-creditable upfront fee in October 2024. We are eligible to receive additional payments including a non-refundable, non-creditable payment in consideration for TLANDO product inventory, marketing authorization and sales milestones, and we will supply TLANDO to SPC and receive a supply price. In addition, we will receive royalties on net sales in South Korea under the SPC License Agreement. A Upon execution of the Pharmalink License Agreement, Pharmalink paid us for a non-refundable, non-creditable upfront fee. Under the Pharmalink License Agreement, we could receive additional payments in regulatory authorization milestones and we will supply TLANDO to Pharmalink at an agreed transfer price. A We are exploring the possibility of licensing LPCN 1021 (known as TLANDO in the United States) to third parties outside the United States, Canada, South Korea, and the GCC countries, although no licensing agreement has been entered into by the Company in any other territories. If and when an agreement is made with a partner, such arrangement would likely be partially contingent upon obtaining local regulatory approval. No assurance can be given that any license agreement will be completed or, if an agreement is completed, that such an agreement would be on terms favorable to us. A LPCN 1111: A Next-Generation Long-Acting Oral Product Candidate for TRT A As previously described, under the terms of the Verity License Agreement, we have licensed the development and commercialization rights to LPCN 1111 (TLANDO XR) in the Licensed Verity Territory to Verity Pharma. We will continue to explore the possibility of partnering LPCN 1111 with third parties outside of the Licensed Verity Territory, although no additional partnering agreement has been entered into by the Company. No assurance can be given that any license agreement outside of the Licensed Verity Territory, will be completed, or, if an agreement is completed, that such an agreement would be on terms favorable to us. A LPCN 1111 is a next-generation, novel ester prodrug of testosterone comprised of testosterone tridecanoate which uses our proprietary delivery technology to enhance solubility and improve systemic absorption. We completed a Phase 2b dose finding study in hypogonadal men in the third quarter of 2016. The primary objectives of the Phase 2b clinical study were to determine the starting Phase 3 dose of LPCN 1111 along with safety and tolerability of LPCN 1111 and its metabolites following oral administration of single and multiple doses in hypogonadal men. Good dose-response relationship was observed over the tested dose range in the Phase 2b study. Additionally, the target Phase 3 dose met primary and secondary end points. Overall, LPCN 1111 was well tolerated with no drug-related severe or serious adverse events reported in the Phase 2b study. All future development and commercialization of LPCN 1111 in the Licensed Verity Territory will be the responsibility of Verity Pharma. A Oral Programs for CNS Disorders A Some preferred endogenous or naturally occurring NAS present in the central nervous system act as positive allosteric modulators (PAMs) of the GABAA receptor, the major biological target of the inhibitory neurotransmitter γ -aminobutyric acid (GABA). To improve oral delivery of these modulators, several synthetic NAS derivatives of endogenous GABAA receptor PAMs have been developed for therapeutic use in the past few decades. A In October 2024, we announced positive data from our qEEG study of our oral brexanolone with results indicating robust central nervous system activity of oral brexanolone, with concentration- and time-dependent post-dose changes in qEEG as follows: A “Quantitative Electroencephalogram (qEEG) in healthy subjects administered single doses of oral brexanolone, a neuroactive steroid, confirmed GABAA modulation A “Rapid and durable CNS target engagement confirms effective oral delivery of bioidentical brexanolone A “Promising results support continued development of oral brexanolone for the treatment of neuropsychiatric disorders A We believe through utilization of our proprietary technology we may have the ability to enable effective oral delivery of endogenous GABAA receptor PAMs which historically had been deemed to be not orally bioavailable. As a novel drug class, NASs have received considerable attention because of their potential to treat various neuropsychiatric conditions including depression, movement disorders, epilepsy, anxiety, and neurodegenerative diseases. We have conducted Phase 1 pharmacokinetic (PK) studies for each of our three lead NAS candidates which have demonstrated promising PK results, safety, and tolerability and we are evaluating additional undisclosed CNS-focused candidates. A LPCN 1154: Product Candidate for PPD A Our most advanced NAS candidate is LPCN 1154, a non-invasive, rapid onset, oral formulation of the neuroactive steroid brexanolone which we are developing for the treatment of PPD. We have completed clinical oral PK studies including a pilot food effect study and a pilot PK bridge study. In addition, as a prelude to a LPCN 1154 pivotal study, a multi-dose study was done confirming the dosing regimen for the pivotal study using the scaled up α -teto be marketed formulation required for New Drug Application (NDA) filing in accordance with the FDA’s feedback on our proposal for establishing the efficacy of LPCN 1154 through a pivotal PK bridge to an approved IV infusion brexanolone via a 505(b)(2) NDA filing. In June 2024, we announced results from the pivotal PK study which demonstrated LPCN 1154 meets bioequivalence with comparator, IV brexanolone, meeting standard bioequivalence criteria and C_{trough} criteria. LPCN 1154 treatment was well-tolerated with no sedation nor somnolence events observed in the pivotal study. A We have completed labeling studies such as a food effect study and PK profiling in women with PPD, and are targeting NDA submission for LPCN 1154 by the end of the fourth quarter of 2024. A 25 “A PPD A PPD, a type of major depressive disorder with onset either during pregnancy or within four weeks of delivery, refers to depression persisting up to 12 months after childbirth. PPD can be clinically segmented by the severity of symptoms and presence of a comorbidity, including epilepsy. Approximately 1 in 8 mothers suffers from PPD in the United States alone; this equates to approximately 600,000 women being affected by PPD annually. A Disease Overview - PPD A “PPD is distinct from the “baby blues, a condition that up to 70% of all new mothers experience; “baby blues tend to be short-lived emotional conditions that do not interfere with daily activities. A “A “A “Symptoms of PPD include hallmarks of major depression, including, but not limited to, sadness, depressed mood, loss of interest, change in appetite, insomnia, sleeping too much, fatigue, difficulty thinking/concentrating, excessive crying, fear of harming the baby/oneself, and/or thoughts of death or suicide. A “A “A “During pregnancy, levels of endogenous NASs increase considerably along with levels of progesterone; however, they drop sharply postpartum. It has been hypothesized that the rapid perinatal decrease in circulating levels of endogenous NASs may be involved in the development of PPD. The first approved treatment option for PPD was an injectable containing endogenous NASs. A “A “A “Depression may persist long after child delivery. Additionally, approximately 40% of women relapse in subsequent pregnancies or on other occasions. A “A “A “Psychiatric comorbidities are common in patients with epilepsy. Patients with epilepsy are at high risk for major depressive disorders and PPD. Reported PPD rates are higher among women with epilepsy than the general population. A Associated Risk Factors A “A “Genetic: family history and/or previous experience of depression or other mood disorders A “A “A “Physiological: rapid changes in sex hormones, stress hormones, and thyroid hormone levels during and after delivery A “A “A “Environmental: stressful life events, changes in relationships at home and at work, and/or lack of familial support A Unmet Medical Need A We believe there is considerable unmet need within women with PPD due to a lack of convenient and fast-acting oral therapies. Selective Serotonin Reuptake Inhibitors (SSRIs) have been the traditional first-line choice for women with severe PPD and require weeks for onset of efficacy; therefore, a need for an oral treatment option with a faster onset of action remains a significant unmet need in treating PPD, especially in mothers with moderate to severe depression prone to harmful actions. A Injectable brexanolone (Zulresso, c , Sage Therapeutics) became the first FDA-approved treatment for postpartum depression. However, numerous factors limit the utilization of injectable brexanolone such as method of administration, cost, and safety concerns. In addition to Zulresso, SAGE Therapeutics received FDA approval for zuranolone (brand name ZURZUVAE, c) in August 2023 and Zurzuva was launched commercially in December 2023. Zuranolone, a synthetic neuroactive steroid derivative, is an oral, once daily 14-day treatment for postpartum depression and is the first oral medication approved by the FDA for the treatment of postpartum depression. Per label, besides a long terminal half-life of approximately 19.7 to 24.6 hours and dosage modifications needed for concomitant use with CYP3A4 modulators, warnings and precautions include CNS depressant effects, impaired ability to drive or engage in other potentially hazardous activities and embryofetal toxicity. A We believe LPCN 1154 targets the current unmet need for robust, rapid relief with 48-hour dosing duration through a convenient oral therapy candidate comprising bioidentical NASs with good tolerability. A 26 “A LPCN 2101: NAS for Epilepsy A We are currently evaluating an additional NAS candidate, LPCN 2101, for women with epilepsy (aWWE). We have completed pre-clinical and Phase 1 studies for LPCN 2101 which demonstrated promising PK results, safety and tolerability. In July 2022 our IND was accepted by the FDA for LPCN 2101 for adults with epilepsy and we plan to initiate a Phase 2 IND opening proof-of-concept study to evaluate the safety, tolerability, and efficacy of LPCN 2101, subject to resource prioritization. A Disease Overview “Epilepsy A Epilepsy is defined by the 1) occurrence of at least two unprovoked seizures more than 24 hours apart, 2) occurrence of one unprovoked seizure and a probability of further seizures occurring over the next 10 years, and/or 3) diagnosis of an epilepsy syndrome. Patients with epilepsy have increased risk of mortality due to direct effects of seizures (e.g., status epilepticus, car accidents) and indirect effects of seizures (e.g., suicide, cardiovascular effects). A Epilepsy is a disorder of the brain that causes seizures, affecting the physical, mental, and social well-being of persons, and is associated with a 2 to 3 times greater mortality rate compared with the general population. About 60-65% of epilepsy is idiopathic and about 30% of patients are refractory (i.e., epilepsy not well managed with currently available Anti-Seizure Medications (ASMs)). Epilepsy is the most common neurological disorder during pregnancy. A It is estimated that approximately 900,000 childbearing (aCB age) women suffer from active epilepsy in the U.S. Women of CB age with epilepsy face many additional challenges due to hormonal influences on seizure activity and endocrine function throughout the different phases of their reproductive cycles. Elevated estrogen or decreased progesterone levels can exacerbate seizure frequency. Often, these women experience hormonal and endogenous NAS imbalances, coupled with fluctuations in the blood levels of ASMs that impact control of seizures, efficacy of oral contraceptives, any coexisting anxiety and/or depression and any associated sleep impairment. Epileptic patients are 5-20 times more likely to develop depression. A Clinical segmentation can be categorized by epilepsy type, comorbidities and patient subgroups. Categorization of focal epilepsy, generalized epilepsy, combined focal and generalized epilepsy, and unknown epilepsy can guide the choice of ASM. Special patient subgroups, including WWE of CB age and elderly patients, require special care and management of epilepsy. Comorbidities such as depression and anxiety may be co-treated with therapies that do not aggravate seizures and have no drug interaction with the ASM used for epilepsy. While lowest effective dose and monotherapy are preferred, management of patients with epilepsy is focused on controlling seizures, avoiding adverse events, and maintaining quality of life. Despite a wide range of ASMs available, about 30% of all people with epilepsy still fail to respond to treatment effectively. Women with epilepsy face specific challenges throughout their lifespan because of seizures, ASMs, and hormonal fluctuations. A Women with epilepsy were once counseled to avoid pregnancy, but epilepsy is no longer considered a contraindication to pregnancy. Caregivers for WWE in the preconception phase either intending to start a family (planning pregnancy) or using contraception to prevent an unplanned pregnancy face significant challenges to balance seizure control efficacy with the selection and dosage of ASMs and ASM-related risks such as, among other risks, fetal-neonatal toxicity, contraception failure, and psychiatric side effects. A Several ASMs are known to have teratogenic effects on the developing fetus (converging evidence from registry studies indicates that teratogenic risks are highest with valproate, followed by carbamazepine and topiramate). Other commonly prescribed ASMs, including older generation agents, such as phenobarbital and phenytoin, have been associated with higher risks as compared with lamotrigine, levetiracetam, clonazepam and gabapentin (Vajda et al., 2014; Voinescu and Pennell, 2015). Moreover, risks associated with ASMs are considerable early in pregnancy; therefore, it is necessary that WWE of CB age undergo counseling, monitoring, and adjustment to the most appropriate ASM prior to becoming pregnant. It is preferable that WWE of CB age discuss seizure control with their doctor for at least 6 months before conception and, if possible, cease ASM therapy or use the lowest effective dose of a single anticonvulsant according to the type of epilepsy and the fetal toxicity of the ASM. Anxiety, depression, lack of adherence to ASM, and/or contraception failure may be experienced by women who are worried about unplanned pregnancy or are late in confirming pregnancy, planned or unplanned. ASMs can reduce the efficacy of oral contraceptives, compounding this problem. A Complex, multidirectional interactions between female hormones, seizures, and ASMs exist. Most hormones act as NASs and can thus modulate brain excitability. Any changes in endogenous or exogenous hormone levels can affect the occurrence of seizures, either directly or via PK interactions that modify the plasma levels of ASMs (Harden, 2008). The PK interactions between oral contraceptives and ASMs are bidirectional (Johnston and Crawford, 2014). The efficacy of hormonal contraception may be diminished for women taking CYP-P450 enzyme inducing ASMs. Epilepsy is not a medical condition in which contraceptives are contraindicated. Contraceptive failure, possibly related to ASMs, may be responsible for up to 1 in 4 unplanned pregnancies in WWE (~12.5% of all WWE pregnancies), versus a rate of 1% in healthy women. A 27 “A Unmet need to treat WWE in CB age A It is estimated that approximately 900,000 CB age women suffer from active epilepsy in the U.S. Women of CB age with

epilepsy face many additional challenges such as hormonal influences on seizure activity and endocrine function throughout the different phases of their reproductive cycles, and approximately 30% of patients with epilepsy cannot be efficiently controlled with available ASMs making consideration of newer pharmacological treatment development options important. A Managing uncontrolled seizures in WWE of CB age is the primary aim during preconception, pregnancy, and postpartum phases. Therefore, uncompromised ASM efficacy with acceptable variability and less or no drug-drug interactions achieved with lowest possible monotherapy dose to address fetal toxicity concerns remain highly unmet needs. Moreover, control of seizures including prevention of breakthrough seizures is critical when planning for pregnancy and also during pregnancy, as it can also lead to undesired falls or auto-accidents and compromise freedom to drive. A Select ASMs have the potential to induce contraception failures, reproductive hormone imbalance, anxiety, and depression. There remains an unmet need for an ASM without the aforementioned downsides, with no to low fetal-neonatal toxicity and without breast-feeding concerns, as well as the potential to treat associated comorbidities. A While over 30 molecules have been approved for the treatment of epilepsy in the U.S., no epilepsy drug has been specifically approved for WWE of CB age. We believe our endogenous NAs as GABAA PAMs, while targeting the goal of seizure control, also have the potential for additional benefits in psychiatric disorders comorbidities (e.g., anxiety and/or depression) and sleep impairment. Moreover, these oral endogenous NAs could potentially address some of the fetal toxicity concerns related to unplanned or planned pregnancy in WWE. (1) A (1) Ref: S.Bangar et al. Functional Neurology 2016; 31(3): 127-134; Reimers et al. Seizure. 2015 May; 28: 66-70. A LPCN 2203: Oral Product for Management of Essential Tremor A LPCN 2203 is an oral candidate for management of essential tremor comprising a bioidentical GABA modulating NAS. We have successfully completed oral pharmacokinetics with bioidentical GABA Modulating NAS and are planning to submit a protocol for a proof-of-concept phase 2 study for ET to the FDA. A Disease Overview - Essential Tremor A Essential Tremor (â€œETâ€œ) is one of the most common movement disorders in the United States, affecting an estimated 7 million in the U.S. For ET patients, uncontrollable shaking of the hands, head, voice, or legs creates difficulty eating, dressing, writing, and pursuing other day-to-day tasks. The etiology of ET is largely unknown, but reduced GABAA receptor levels and decreased GABAergic activity have been observed in ET. A While ET is often associated with aging populations, ET can begin much earlier in life, with a progressive disease course that can eventually necessitate a care partner. Social anxiety and depressive symptoms can manifest in patients with ET as tremor severity increases, and may negatively impact a patientâ€™s ability to work and engage in hobbies. In an interview study of ET patients and care partners, the most common impacts on activities of daily living are pouring liquids and writing/typing (100%) and grooming/hygiene, drinking, dressing, eating, and reading (80-85%). Overall, 90% of participants noted the emotional impact of ET, with 75% reporting tremor-related worry or anxiety. A The only FDA approved pharmacological treatment for ET was approved more than 50 years ago, and the majority of patients with ET experience a sub-optimal response with standard-of-care treatments, highlighting numerous and compelling unmet needs in care such as daytime efficacy and improved tolerability, a PRN (pro re nata) or â€œas neededâ€œ option, and a superior benefit-to-risk profile.(1) (2) A (1) Ref: Louis ED, Ottman R. Tremor Other Kyperkinet Mov (NY). 2014;4:259. A (2) Ref: Gerbasi et al. Patient experiences in essential tremor: Mapping functional impacts to existing measures using qualitative research. MDS 2023. A Other Pipeline Candidates A We continue to pursue opportunities for partnering and/or development arrangements for the continued development and/or marketing of LPCN 2401, LPCN 1148, LPCN 1144, and LPCN 1107. We do not currently anticipate conducting any further significant development activities with respect to these products and product candidates without the participation of a partner. There can be no guarantee that we will be able to identify or enter into partnering arrangements on terms that are beneficial to us or at all. Even if we do enter into partnering arrangements, such arrangements may not be sufficient to successfully develop and commercialize these products. A 28 A A LPCN 2401: For Improved Body Composition in Obesity Management A LPCN 2401 is targeted to be a once daily oral formulation comprising a proprietary anabolic androgen receptor agonist, and LPCN 2401+E is a proprietary anabolic androgen receptor agonist co-formulated with Vitamin E, an antioxidant metabolic modifier. LPCN 2401 is expected to have a favorable benefit to risk profile as a non-invasive option for use as an adjunct to GLP-1 chronic weight management therapies and/or as a monotherapy post cessation of GLP-1 chronic weight management therapies with demonstrated benefits to the liver. A LPCN 2401 has potential for use as an adjunct to incretin mimetics (GLP-1/GIP agonists) including amplification of GLP-1 insulinotropic actions which is supported by studies demonstrating the role of androgen receptor agonist in regulation of GLP-1 through: A A â€”Enhancement of GLP-1-mediated insulin release from Î² cells through genomic- and non-genomic mechanisms A A A â€”Increase in GLP-1 Receptor Expression in diabetics and non-diabetics A A A â€”Promoting proliferation of Î² cells and improving insulin sensitivity A Target benefits of LPCN 2401 in combination with GLP-1 agonists include improved body composition with quality weight loss while attenuating lean mass loss, a serious unmet need, in addition to quality fat loss through appreciable abdominal fat loss. Moreover, as an adjunct to incretin mimetics, LPCN 2401 may increase weight loss, particularly in diabetics, through increased expression activity of GLP1R and increased effectiveness of GIP1 therapies secondary to actions at GLP1R (glucose lowering). LPCN 2401 could also be potentially used as monotherapy post discontinuation of GLP-1 agonist to manage weight/fat regain and durability of diabetes remission. A Data from preclinical and clinical studies support the potential of LPCN 2401 and LPCN 2401+E in improving body composition. In April 2024, Lipocine announced results from a multi-center prospective, blinded Phase 2 study, which demonstrated increases in lean mass of 4.4%, decreases in fat mass of 6.7%, reduction in android fat of 4.1% and increased bone mineral content of 2.8% in a population consistent with FDA guidance for developing products for weight management. LPCN 2401 was well tolerated with minimal GI or androgenic adverse events and no reports of muscle spasms. A As an adjunct therapy to incretin mimetics, LPCN 2401 has the potential to attenuate fat/weight rebound, ameliorate loss of muscle mass, improve muscle quality and functionality, amplify fat mass loss with improved body composition, maintain weight, prevent â€œfat overshoot,â€œ and accelerate muscle rebound post incretin mimetic discontinuation. We plan to meet with the FDA to discuss the study design for a proof-of-concept phase 2 study for LPCN 2401 and expansion to the female population. We may explore the possibility of partnering LPCN 2401 with a third party, although no partnering agreement has been entered into by us. No assurance can be given that any license agreement will be completed, or, if an agreement is completed, that such an agreement would be on terms favorable to us. A Disease and Market Overview â€” Obesity Management A Approximately 74% of US adults aged 20 and older are either obese or overweight, and an estimated 30% of the US adult population has a BMI â‰¥ 30 kg/m2. Obesity is a chronic, relapsing health risk defined by excess body fat. Excess body fat increases the risk of death and major comorbidities such as type 2 diabetes, hypertension, dyslipidemia, cardiovascular disease, osteoarthritis of the knee, sleep apnea, and some cancers1. About 30% of overweight (BMI â‰¥ 25 kg/m2) adults 2 have type 2 diabetes, 50%3 have dyslipidemia, and 67%4 have hypertension. A It is estimated that the total GLP-1 users in the U.S. may reach 30 million (around 9% of the overall population) by 20305. Reportedly, ~24M6 obese elderly are most vulnerable to losing muscle mass. The rapid weight loss observed with the currently approved chronic weight management GLP-1 receptor agonist medications includes unwanted lean mass loss, up to 40% of the patientâ€™s total weight lost. Moreover, discontinuation of these therapies frequently results in a rapid regain in weight. Loss of lean mass has multiple negative health implications including weakness/fatigue, lowered metabolism which can cause a regain in fat mass, declines in neuromuscular function, potential effects on emotion and psychological states, and increased risk of injury. A Several recent studies showed that body composition, especially lean body mass (muscle) may play an independent role in survival of patients with diseases such as cancer and cardiovascular diseases (DH Lee and El Giovannucci, Exp Biol Med. 2018). Therefore, a focus on body composition in obesity management to sustainably lose fat mass while maintaining lean mass should be an essential goal. A There is a significant unmet need for an oral, efficacious, muscle preserving/gaining option for chronic obesity/weight management that ameliorates the loss of lean mass associated with GLP-1/GIP agonist treatment, resulting in a higher quality weight loss. Moreover, there is a need for a chronic long-term pharmacotherapy option to maintain weight upon cessation of incretin mimetic therapy, prevent fat/weight rebound â€œovershootâ€œ and minimize lag in muscle recovery to prevent collateral fattening as well as improve the durability of any achieved diabetes remission while on GLP-1. A (1)Ref: Caterson and Hubbard et al. 2004; Calle and Thun et al. 1999 (2)https://news.harvard.edu/gazette/story/2012/03/the-big-setup/ (3)https://www.ncbi.nlm.nih.gov/books/NBK305895/ (4)https://pmc.ncbi.nlm.nih.gov/articles/PMC6316192/#sec3-nutrients-10-01976 (5)https://www.jpman.org/insights/global-research/current-events/obesity-drugs (6)Ref: Flynn et al. Morgan Stanley, February 27, 2024 A 29 A A LPCN 1148: Oral Product Candidate for the Management of Decompensated Cirrhosis A We are currently evaluating LPCN 1148 comprising testosterone laurate (â€œLTâ€œ) for the management of decompensated cirrhosis. We believe LPCN 1148 targets unmet needs for cirrhosis subjects including improvement in the quality of life of patients while on the liver transplant waiting list, prevention or reduction in the occurrence of new decompensation events such as OHE, and improvement in post liver transplant survival, including outcomes and costs. We are exploring the possibility of partnering with a third party for the development and/or marketing of LPCN 1148, although no partnering agreement has been entered into by the Company. No assurance can be given that any partnering agreement will be completed, or, if an agreement is completed, that such an agreement would be on terms favorable to us. A We conducted a Phase 2 proof of concept (â€œPOCâ€œ) study (NCT04874350) in male subjects with cirrhosis to evaluate the therapeutic potential of LPCN 1148 for the management of sarcopenia. The Phase 2 POC study was a prospective, multi-center, randomized, placebo-controlled study in male sarcopenic cirrhotic patients. Subjects were initially randomized 1:1 to 1 of 2 arms. The treatment arm was an oral dose of LPCN 1148, and the second arm was a matching placebo. There were no restrictions on patients with respect to background therapies, including current standard of care, diet or exercise. The primary endpoint was a change in skeletal muscle index at week 24 with key secondary endpoints including change in liver frailty index, rates of breakthrough OHE, and number of waitlist events, including all-cause mortality. Total treatment was 52 weeks, with 24-week placebo-controlled treatment subjects receiving LPCN 1148 in the 28-week open-label extension (â€œOLEâ€œ) phase of the study for the duration of the study through week 52. A In July 2023 we announced that the Phase 2 study met the study primary endpoint, increased skeletal muscle index (L3-SMI) relative to placebo (P<.01), in patients with cirrhosis. The study also demonstrated improvements in clinical outcomes such as prevention of new decompensation events including OHE, rates of hospitalizations, and patient reported outcomes (â€œPROsâ€œ). LPCN 1148 was well-tolerated, with adverse event (â€œAEâ€œ) rates and severities similar to placebo and no mortality was noted in the LPCN 1148 treatment group, nor were there any cases of drug-induced liver injury. A In March 2024 we announced that 24-week L3-SMI increases were maintained through 52 weeks of LPCN 1148 intervention and that placebo patients who switched to LPCN 1148 in the open label extension period of the study had increases in L3-SMI. Furthermore, fewer OHE events were observed in LPCN 1148 treated patients and time to first recurrent OHE event was longer for treated patients. LPCN 1148 was well-tolerated, with AE rates and severities similar to placebo and fewer participants experienced serious or severe adverse events when switched from placebo to LPCN 1148 and patients on therapy were hospitalized for fewer days. We plan to request a Type C meeting with the FDA to discuss the clinical development plan for LPCN 1148. A Disease Overview â€” Cirrhosis A There are over 2 million cases of cirrhosis worldwide, with over 500,000 people living with decompensated cirrhosis in the U.S. Non-alcoholic fatty liver disease is the most rapidly increasing indication for liver transplant. 62% of those on the liver transplant (â€œLTâ€œ) waitlist are male and the economic burden (approximately \$812,500/transplant) is high and continues to increase. Each year about half of the approximately 17,000 people in U.S. on the LT waitlist undergo transplant, while nearly 3,000 patients either die or are removed from the list because they were â€œtoo sick to transplant.â€œ A Liver cirrhosis is defined as the histological development of regenerative nodules surrounded by fibrous bands. Patients with cirrhosis typically have a years-long silent, asymptomatic phase (compensated cirrhosis) until decreasing liver function and increasing portal pressure move the patient into the symptomatic phase (decompensated cirrhosis). Transition to decompensated cirrhosis is marked by clinical events including ascites, encephalopathy, jaundice, and/or variceal hemorrhage. Decompensated subjects survive on average less than 2 years. Common causes of liver cirrhosis include alcoholic liver disease, non-alcoholic fatty liver disease (â€œNAFLDâ€œ), chronic hepatitis B and C, primary biliary cirrhosis (â€œPBCâ€œ), and primary sclerosing cholangitis (â€œPSCâ€œ) and some patients have liver disease of unknown cause (cryptogenic). A Common complications in patients with cirrhosis may include: compromised liver function, portal hypertension, varices in GI tract with internal bleeding, edema, ascites, hepatic encephalopathy (â€œHEâ€œ), compromised immunity with post-transplant acute rejection risk, high sodium levels, increased bilirubin, low albumin level, insulin resistance with impaired peripheral uptake of glucose, depression, accelerated muscle disorder in the form of sarcopenia, myosteatosis, and frailty with compromised energetics, bone diseases (e.g., osteoporosis), high alkaline phosphatase (â€œALPâ€œ), cachexia, malnutrition, weight loss (>5%), symptoms of hypogonadism such as abnormal hair distribution, anemia, sexual dysfunction, testicular atrophy, muscle wasting, fatigue, osteoporosis, gynecomastia, inflammation with elevated cytokines, and infection risk leading to hospital admissions and possibly death. A 30 A A HE, a significant decompensation event in patients with cirrhosis, is a brain dysfunction caused by liver insufficiency and/or portal systemic shunting. Because the damaged liver cannot function normally (as in cirrhosis), neurotoxins such as ammonia are inadequately removed from systemic circulation and travel to the brain, where they affect neurotransmission. This can cause episodes of HE, which may present as alterations in consciousness, cognition, and behavior that range from minimal to severe. Over HE occurs in 30% to 40% of patients with cirrhosis at some point during the clinical course of their disease. As the burden of chronic liver disease and cirrhosis is increasing, the frequency of HE is also increasing. A LPCN 1144: An Oral Prodrug of Bioidentical Testosterone Product Candidate for the Treatment of NASH A We are exploring the possibility of partnering with a third party for LPCN 1144, although no partnering agreement has been entered into by the Company. No assurance can be given that any license agreement will be completed, or, if an agreement is completed, that such an agreement would be on terms favorable to us. A Disease Overview â€” NASH A NASH is an advanced state of non-alcoholic fatty liver disease (â€œNAFLDâ€œ) that can progress to a cirrhotic liver or liver failure, require liver transplant, and can result in hepatocellular carcinoma/ liver cancer, and death. Progression of NASH to end stage liver disease is one of the leading causes of liver failure requiring liver transplantation. Importantly, beyond these critical conditions, NASH and NAFLD patients additionally suffer heightened cardiovascular risk and die more frequently from cardiovascular events than from liver disease. NAFLD/NASH is becoming more common due to its strong correlation with obesity and metabolic syndrome, including components of metabolic syndrome such as diabetes, cardiovascular disease and high blood pressure. 20% to 30% of the U.S. population is estimated to suffer from NAFLD, with a large proportion of that group, 15% to 20%, progressing to NASH, which lacks an effective therapy. NASH is a silent killer that affects millions in the U.S. Diagnoses have been on the rise and are expected to increase dramatically in the next decade. Approximately 50% of NASH patients are adult males. In men, especially with comorbidities associated with NAFLD/NASH, testosterone deficiency has been associated with an increased accumulation of visceral adipose tissue and insulin resistance, which could be factors contributing to NAFLD/NASH. There is currently no approved therapy for the treatment of NASH although there are several drug candidates currently under development with many having clinical failures to date. A The critical pathophysiologic mechanisms underlying the development and progression of NASH include reduced ability to handle lipids, increased insulin resistance, injury to hepatocytes and liver fibrosis in response to hepatocyte injury. NASH patients have an excessive accumulation of fat in the liver resulting primarily from a caloric intake above and beyond energy needs. A healthy liver contains less than 5% fat, but a liver in someone with NASH can contain more than 20% fat. This abnormal liver fat contributes to the progression to NASH, a liver necro-inflammatory state that can lead to scarring, also known as fibrosis, and, for some, can progress to cirrhosis and liver failure. A Current Status A We have completed the LiFT Phase 2 clinical study in biopsy-confirmed non-cirrhotic NASH subjects. The LiFT clinical study was a prospective, multi-center, randomized, double-blind, placebo-controlled multiple-arm study in biopsy-confirmed hypogonadal and eugonadal male NASH subjects with grade F1-F3 fibrosis and a target NAFLD Activity Score â‰¥ 4 with a 36-week treatment period. The LiFT clinical study enrolled 56 biopsy confirmed NASH male subjects. Subjects were randomized 1:1:1 to one of three arms (Treatment A was a twice daily oral dose of 142 mg testosterone equivalent, Treatment B was a twice daily oral dose of 142 mg testosterone equivalent formulated with 217 mg of d-alpha tocopherol equivalent, and the third arm was a twice daily matching placebo). A The primary endpoint of the LiFT clinical study was change in hepatic fat fraction via MRI-PDFF and exploratory liver fat/marker end points post 12 weeks of treatment. Additionally, key secondary endpoints post 36 weeks of treatment included assessment of histological change for NASH resolution and/or fibrosis improvement (biopsy) as well as liver fat data (MRI-PDFF). The LiFT clinical study was not powered to assess statistical significance of any of the secondary endpoints. Other important endpoints included the following: change in liver injury markers, anthropomorphic measurements, body composition including lean mass, fat mass, and bone mineral density, lipids, insulin resistance and inflammatory/fibrosis markers; as well as patient reported outcomes. A Treatments with LPCN 1144 post 12 weeks of treatment in the LiFT study resulted in robust liver fat reduction, assessed by MRI-PDFF, and showed improvement of liver injury markers with no observed tolerability issues. A 31 A A Liver biopsies were performed at baseline (â€œBLâ€œ) and after 36 weeks of treatment (â€œEOSâ€œ). Pre-specified biopsy analyses included NASH Clinical Research Network (â€œCRNâ€œ) scoring as well as a continuous paired (â€œPaired Techniqueâ€œ) and digital technique (â€œDigital Technique-Fibronetâ€œ). All biopsy analyses were performed on the same slides and the reads for the three techniques were done independently. Analysis sets included the NASH Resolution Set (all subjects that have BL and EOS biopsy with NASH at BL [NAS â‰¥4 with lobular inflammation score â‰¥1 and hepatocyte ballooning score â‰¥1 at BL] (n=37)), the Biopsy Set (all subjects with baseline and EOS biopsies (n=44)), and the Safety Set (all randomized

subjects (n=56)). Both LPCN 1144 treatment arms met with statistical significance the pre-specified accelerated approval regulatory endpoint of NASH resolution with no worsening of fibrosis based on NASH CRN scoring. Additionally, both treatment arms showed substantial improvement of the observed NASH activity in steatosis, inflammation, and ballooning. Á During the 36 weeks of treatment, LPCN 1144 was well tolerated with an overall safety profile comparable to placebo. Additionally, subjects were given the option to have access to LPCN 1144 through an open label extension (áœœOLEáœ) study. The extension study enabled the collection of additional data on LPCN 1144 for up to a total of 72 weeks of therapy, as well as data for 36 weeks of therapy for those subjects on placebo in the LiFT study. Key results from the OLE study are as follows: Á Á Á— LPCN 1144 was well tolerated over 72-week exposure with no observed safety signals; Á Á Á— Liver injury markers were reduced and maintained with extended LPCN 1144 treatment; and Á Á Á— Observed liver histology improvements support further development. Á In November 2021, the FDA granted Fast Track Designation to LPCN 1144 as a treatment for non-cirrhotic NASH. The Fast Track program is designed to accelerate the development and expedite the review of products, such as LPCN 1144, which are intended to treat serious diseases and for which there is an unmet medical need. Á We had a written only response from the FDA for a LPCN 1144 Type C meeting with the FDA in January 2022 to discuss the development path forward with LPCN 1144. The FDA acknowledged that the NDA submission of LPCN 1144 would be via the 505(b)2 regulatory pathway and agreed that no additional non-clinical studies are needed to support an NDA submission. The FDA acknowledged that subjects in the LiFT study achieved improvements in key components associated with NASH histopathology after 36-weeks of treatment with LPCN 1144 in adult males and agreed that the proposed multicompartment primary surrogate endpoint is acceptable for seeking approval under the accelerated approval pathway. The FDA agreed that the proposed primary multicompartment surrogate endpoint, NASH resolution with no worsening of fibrosis, is acceptable for seeking approval under the accelerated approval pathway and the FDA recommended a Phase 3 trial with a study duration of 72 weeks. In July 2022, Lipocine held an End of Phase 2 meeting with the FDA for LPCN 1144 for NASH. The FDA recommended a Phase 2 dose ranging study be conducted to identify the optimal dose prior to conducting a pivotal study. The FDA agreed to the proposed unique testosterone ester, testosterone laurate, for future clinical studies. Á LPCN 1107: An Oral Product Candidate for the Prevention of Preterm Birth (áœœPTBáœ) Á We are exploring the possibility of partnering with a third party for the development and/or marketing of LPCN 1107, although no partnering agreement has been entered into by us. No assurance can be given that any partnering agreement will be completed, or, if an agreement is completed, that such an agreement would be on terms favorable to us. Á We believe LPCN 1107 has the potential to become the first oral hydroxyprogesterone caproate (áœœHPCáœ) product indicated for the reduction of risk of PTB (delivery less than 37 weeks) in women with singleton pregnancy who have a history of singleton spontaneous PTB. Prevention of PTB is a significant unmet need as approximately 11% of all U.S. pregnancies result in PTB, a leading cause of neonatal mortality and morbidity. Á Current Status Á We have completed a multi-dose PK dose selection study in pregnant women. The objective of the multi-dose PK selection study was to assess HPC blood levels in order to identify the appropriate LPCN 1107 Phase 3 dose. The multi-dose PK dose selection study was an open-label, 4-period, 4-treatment, randomized, single and multiple dose PK study in pregnant women with 3 dose levels of LPCN 1107 and the IM HPC (Makenaáœ). The study enrolled 12 healthy pregnant women (average age of 27 years) with a gestational age of approximately 16 to 19 weeks. Subjects received three dose levels of LPCN 1107 (400 mg BID, 600 mg BID, or 800 mg BID) in a randomized, crossover manner during the first 3 treatment periods and then received 5 weekly injections of HPC during the fourth treatment period. During each of the LPCN 1107 treatment periods, subjects received a single dose of LPCN 1107 on Day 1 followed by twice daily administration from Day 2 to Day 8. Following completion of the 3 LPCN 1107 treatment periods and a washout period, all subjects received 5 weekly injections of HPC. Results from this study demonstrated that average steady state HPC levels (Cavg0-24) were comparable or higher for all 3 LPCN 1107 doses than for injectable HPC. Additionally, HPC levels as a function of daily dose were linear for the 3 LPCN 1107 doses. Also, unlike the injectable HPC, steady state exposure was achieved for all 3 LPCN 1107 doses within 7 days. Á 32 Á Á A traditional PK/PD based Phase 2 clinical study in the intended patient population is not expected to be required prior to entering into Phase 3. Therefore, based on the results of our multi-dose PK study we had an End-of-Phase 2 meeting and subsequent guidance meetings with the FDA to define a pivotal Phase 2b/3 development plan for LPCN 1107. We have completed a food effect study to characterize the dosing regimen for the pivotal study and we have submitted a pivotal clinical study protocol to the FDA. Á The FDA has granted orphan drug designation to LPCN 1107 based on a major contribution to patient care. Orphan designation qualifies Lipocine for various development incentives, including tax credits for qualified clinical testing, and a waiver of the prescription drug user fee when we file our NDA. Á Recent Competition Update Á On October 5, 2020, the FDAáœ™s Center for Drug Evaluation and Research (áœœCDERáœ) proposed that Makena be withdrawn from the market because the PROLONG trial failed to verify the clinical benefit of Makena and concluded that the available evidence does not show Makena is effective for its approved use. Á The CDER issued AMAG Pharmaceuticals, the NDA holder at the time, a Notice of Opportunity for Hearing (áœœNOOHáœ) to withdraw approval of Makena, for which AMAG Pharmaceuticals responded by requesting a hearing and providing detail on the companyáœ™s position, recognizing cliniciansáœ™ decade-long use of treatment with Makena and the public health implications of withdrawing approval. The FDA Commissioner held a public hearing with Covis from October 17 through 19, 2022, which resulted in a 14-1 vote recommending removal of the product from the market. On October 31, 2022, Covis approached the CDER and outlined a plan of orderly withdrawal which would set a withdrawal timeframe sufficient for current patients to complete their courses of treatment. The CDER declined this proposal. On March 6, 2023, Covis announced its plan to voluntarily withdraw Makena from the market and submitted a request to the CDER for a minimum 21-week wind-down. On April 6, 2023, the FDA withdrew its approval of Makena and ordered the immediate withdrawal of Makena and several approved generic versions of the drug, making it unlawful for the drug to be distributed in the U.S. The FDA stated that in light of the unmet need for a treatment for preventing preterm birth and improving neonatal outcomes, it is imperative that the medical and scientific communities increase their efforts to find effective treatments and stated their hope that the decision to withdraw Makena will help galvanize further research. The FDA further stated their commitment to working together with patients, researchers, and drug developers to advance the development of safe and effective therapies that are urgently needed as a treatment for the prevention of preterm birth. Á Financial Operations Overview Á Revenue Á To date, we have not generated any revenues from product sales and do not expect to do so until our FDA approved product receives regulatory approval outside the U.S. and Canada or until one of our product candidates receives approval from the FDA. Revenues to date have been generated substantially from license fees, royalty and milestone payments and research support from our licensees. Since our inception through September 30, 2024, we have generated \$49.6 million in revenue under our various license and collaboration arrangements and from government grants. We have entered into the Verity License Agreement, the SPC License Agreement, and the Pharmalink License Agreement with the potential for revenue from future milestones, royalties and/or product sales, but we may never generate revenues from any of our clinical or preclinical development programs or licensed products as we may never succeed in obtaining regulatory approval or commercializing any of these product candidates. Á Research and Development Expenses Á Research and development expenses consist primarily of salaries, benefits, stock-based compensation and related personnel costs, fees paid to external service providers such as contract research organizations and contract manufacturing organizations, contractual obligations for clinical development, clinical sites, manufacturing and scale-up for late stage clinical trials, formulation of clinical drug supplies, and expenses associated with regulatory submissions. Research and development expenses also include an allocation of indirect costs, such as those for facilities, office expense, and depreciation of equipment based on the ratio of direct labor hours for research and development personnel to total direct labor hours for all personnel. We expense research and development expenses as incurred. Since our inception, we have spent approximately \$153.5 million in research and development expenses through September 30, 2024. Á 33 Á Á We expect to continue to incur significant costs as we develop our other product candidates, including our CNS product candidates, as well as the development of any future pipeline product candidates. Á In general, the cost of clinical trials may vary significantly over the life of a project as a result of uncertainties in clinical development, including, among others: Á Á Á— the number of sites included in the trials; Á Á Á— the length of time required to enroll suitable subjects; Á Á Á— the duration of subject follow-ups; Á Á Á— the length of time required to collect, analyze and report trial results; Á Á Á— the cost, timing and outcome of regulatory review; and Á Á Á— potential changes by the FDA in clinical trial and NDA filing requirements. Á Future research and development expenditures are subject to numerous uncertainties regarding timing and cost to completion, including, among others: Á Á Á— the timing and outcome of regulatory filings and FDA reviews and actions for product candidates; Á Á Á— our dependence on third-party manufacturers for the production of satisfactory finished products for registration and launch should regulatory approval be obtained on any of our product candidates; Á Á Á— the potential for future license or co-promote arrangements for our product candidates, when such arrangements will be secured, if at all, and to what degree such arrangements would affect our future plans and capital requirements; and Á Á Á— the effect on our product development activities of actions taken by the FDA or other regulatory authorities. Á A change of outcome for any of these variables with respect to the development of our product development candidates could mean a substantial change in the costs and timing associated with these efforts, could require us to raise additional capital, and may require us to reduce operations. Á Given the stage of clinical development and the significant risks and uncertainties inherent in the clinical development, manufacturing, and regulatory approval process, we are unable to estimate with any certainty the time or cost to complete the development of LPCN 1154, LPCN 2401, LPCN 2101, LPCN 2203, LPCN 1148, LPCN 1144, LPCN 1111, LPCN 1107 and other product candidates. Clinical development timelines, the probability of success, and development costs can differ materially from expectations and results from our clinical trials may not be favorable. If we are successful in progressing LPCN 1154, LPCN 2401, LPCN 2101, LPCN 2203 or other future product candidates into later stage development, we will require additional capital. The amount and timing of our future research and development expenses for these product candidates will depend on the pre-clinical and clinical success of both our current development activities and potential development of new product candidates, as well as ongoing assessments of the commercial potential of such activities. We will continue efforts to enter into partnership arrangements for the continued development and/or marketing of LPCN 1144, LPCN 1148, LPCN 2401, LPCN 1107, for the development and commercialization of TLANDO outside of the United States, Canada, South Korea, and the GCC countries and LPCN 1111 outside of the United States and Canada. Á We expect to continue to incur significant research and development expenses in the future as we complete on-going clinical studies, including the studies for our CNS product candidates and as we conduct future clinical studies, including when and if we conduct Phase 2 clinical studies with LPCN 2401 or our development product candidates and when and if we conduct Phase 3 clinical studies with LPCN 1144, LPCN 1148, and LPCN 1107. We are also exploring the possibility of licensing LPCN 1144, LPCN 1148, LPCN 2401 and LPCN 1107, although we have not entered into a licensing agreement and no assurance can be given that any license agreement will be completed, or, if an agreement is completed, that such an agreement would be on terms favorable to us. If we are unable to raise additional capital or obtain non-dilutive financing, we may need to reduce research and development expenses in order to extend our ability to continue as a going concern. Á General and Administrative Expenses Á General and administrative expenses consist primarily of salaries and related benefits, including stock-based compensation, and outside consulting services related to our executive, finance, business development and administrative support functions. Other general and administrative expenses include rent and utilities, travel expenses, and professional fees for auditing, tax, legal, and various other services. Á 34 Á Á General and administrative expenses also include expenses for the cost of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims. Á We expect that general and administrative expenses will increase in the future as we continue as a public company. These fees include legal and consulting fees, accounting and audit fees, director fees, directorsáœ™ and officersáœ™ insurance premiums, fees for investor relations services and enhanced business and accounting systems, litigation costs, professional fees and other costs. However, if we are unable to raise additional capital, we may need to reduce general and administrative expenses in order to extend our ability to continue as a going concern. Á Other Income and Expense Á Other income and expense consists primarily of interest income earned on our cash, cash equivalents and marketable investment securities, imputed interest on minimum royalties under the Antares Licensing Agreement in 2023, and losses (gains) on our warrant liability. Á Results of Operations Á Comparison of the Three Months Ended September 30, 2024 Á The following table summarizes our results of operations for the three months ended September 30, 2024 and 2023: Á Á Á Three Months Ended September 30, Á Á Á 2024 Á 2023 Á Variance Á Revenue Á \$- Á \$ (3,121,996) Á \$3,121,996 Á Research and development expenses Á \$1,585,233 Á \$2,878,798 Á \$ (1,293,565) General and administrative expenses Á \$1,045,240 Á \$1,042,572 Á \$ 2,668 Á Interest and investment income Á \$273,574 Á \$317,569 Á \$ (43,995) Unrealized gain (loss) on warrant liability Á \$138,081 Á \$74,827 Á \$ 63,254 Á Revenue Á We did not recognize any revenue during the three months ended September 30, 2024. We recorded a non-cash revenue reversal of variable consideration for minimum guaranteed royalties of \$3.1 million relating to the termination of the Antares License Agreement during the three months ended September 30, 2023. Á Research and Development Expenses Á The decrease in research and development expenses during the three months ended September 30, 2024, as compared to the three months ended September 30, 2023 consists of a \$605,000 decrease in TLANDO related costs, a \$448,000 decrease in contract research organization expense and outside consulting costs related to the wind down of our LPCN 1148 study in 2024, a \$296,000 decrease in costs related to our LPCN 1154 clinical studies, offset by a \$49,000 increase in personnel related costs, and a \$6,000 increase in other research and development related costs and supplies. Á General and Administrative Expenses Á General and administrative expenses were \$1.0 million in each of the quarters ended September 30, 2024 and 2023. Á Interest and Investment Income Á The decrease in interest and investment income during the three months ended September 30, 2024 compared to interest and investment income during the three months ended September 30, 2023 was due to somewhat lower cash and marketable investment securities balances, in addition to no longer having imputed interest income on the Antares License Agreement contract asset in the three months ended September 30, 2024. Á 35 Á Á Gain (Loss) on Warrant Liability Á We recorded gains of approximately \$138,000 and \$75,000 on warrant liability during the three months ended September 30, 2024 and 2023, respectively, related to the change in the fair value of outstanding common stock warrants issued in the November 2019 Offering. The gain in 2024 resulted from a decrease in the fair value of warrants mainly due to a lower stock price, remaining life and interest rate at the end of the third quarter of 2024 compared to the stock price and interest rate at the end of the second quarter of 2024. The gain in 2023 resulted from a decrease in the fair value of warrants outstanding as of September 30, 2023 as compared to June 30, 2023, which was primarily due to the decrease in our stock price at the end of the third quarter 2023 compared to the stock price at the end of the second quarter of 2023. No common stock warrants from the November 2019 Offering were exercised during the either three or nine months ended September 30, 2024 or 2023. The warrants are classified as a liability due to a provision contained within the warrant agreement which allows the warrant holder the option to elect to receive an amount of cash equal to the value of the warrants as determined in accordance with the Black-Scholes option pricing model with certain defined assumptions upon a change of control. The warrant liability will continue to fluctuate in the future based on inputs to the Black-Scholes model including our current stock price, the remaining life of the warrants, the volatility of our stock price, the risk-free interest rate and the number of common stock warrants outstanding. Á Comparison of the Nine Months Ended September 30, 2024 Á The following table summarizes our results of operations for the nine months ended September 30, 2024 and 2023: Á Á Á Nine Months Ended September 30, Á Á Á 2024 Á 2023 Á Variance Á Revenue Á \$7,706,738 Á \$ (3,067,006) Á \$10,773,744 Á Research and development expenses Á \$8,500,319 Á \$ (2,221,438) General and administrative expenses Á \$4,128,371 Á \$3,770,281 Á \$ 358,090 Á Interest and investment income Á \$913,784 Á \$1,067,561 Á \$ (153,777) Unrealized gain (loss) on warrant liability Á \$13,580 Á \$200,416 Á \$ (186,836) Income tax expense Á \$ (681) Á \$ (200) Á \$ (481) Á Revenue Á We recognized revenue of \$7.7 million primarily consisting of licensing revenue of \$7.5 million received from our Verity License Agreement and TLANDO royalty revenue of \$206,000 from the Verity License Agreement and terminated Antares License Agreement during the nine months ended September 30, 2024. We recognized a non-cash revenue reversal of variable consideration for minimum guaranteed royalties of \$3.1 million relating to the termination of the Antares License Agreement during the nine months ended September 30, 2023 offset by licensing revenue of approximately \$55,000 for payments received related to the Spriaso license agreement. Á Research and Development Expenses Á The decrease in research and development expenses during the nine months ended September 30, 2024, as compared to the nine months ended September 30, 2023 consists of an \$2.6 million decrease in contract research organization expense and outside consulting costs related to the wind down of our LPCN 1148 study in 2024, a \$558,000 decrease in TLANDO related costs, a \$87,000 decrease in personnel related costs, and a \$6,000 decrease in other research and development related costs. These decreases were offset by a \$1.0 million increase in costs related to our LPCN 1154 clinical studies and a \$25,000 increase in LPCN 2401 development costs. Á General and Administrative Expenses Á The increase in general and administrative expenses during the nine months ended September 30, 2024 as compared to the nine months ended September 30, 2023 consists of an \$834,000 increase in business development expenses, a \$94,000 increase in corporate legal fees, and a \$23,000 increase in director fees, offset by a \$204,000 decrease in corporate insurance expense, a \$173,000 decrease in professional fees related to our 2023 reverse stock split, a \$134,000 decrease in various other administrative

consulting fees, a \$42,000 decrease in personnel related costs, and a \$40,000 decrease in travel related costs. A 36 A Interest and Investment Income A The decrease in interest and investment income during the nine months ended September 30, 2024 compared to interest and investment income during the nine months ended September 30, 2023 was due to somewhat lower cash and marketable investment securities balances, in addition to no longer having imputed interest income on the Antares License Agreement contract asset in the nine months ended September 30, 2024. A Gain (Loss) on Warrant Liability A We recorded non-cash gains of approximately \$14,000 and \$200,000 on our warrant liability during the nine months ended September 30, 2024 and 2023, respectively, related to the change in the fair value of outstanding common stock warrants issued in the November 2019 Offering. The gain in 2024 resulted from a decrease in the fair value of warrants mainly due to the remaining life of the warrant and lower interest rate at the end of the third quarter of 2024 compared to a lower stock price on December 31, 2023. The gain in 2023 was attributable to a decrease in the fair value of warrants outstanding as of September 30, 2023 as compared to December 31, 2022, primarily due to the decrease in our stock price at the end of the third quarter 2023 compared to the stock price on December 31, 2022. No common stock warrants from the November 2019 Offering were exercised during either the nine months ended September 30, 2024 or the nine months ended September 30, 2023. The warrants are classified as a liability due to a provision contained within the warrant agreement which allows the warrant holder the option to elect to receive an amount of cash equal to the value of the warrants as determined in accordance with the Black-Scholes option pricing model with certain defined assumptions upon a change of control. The warrant liability will continue to fluctuate in the future based on inputs to the Black-Scholes model including our current stock price, the remaining life of the warrants, the volatility of our stock price, the risk-free interest rate and the number of common stock warrants outstanding. A Liquidity and Capital Resources A Since our inception, our operations have been primarily financed through sales of our equity securities, issuances of debt and payments received under our license and collaboration arrangements. We have devoted our resources to funding research and development programs, including discovery research, and preclinical and clinical development activities. We have incurred operating losses in most years since our inception and we expect to continue to incur operating losses into the foreseeable future as we advance the clinical development of LPCN 1154, LPCN 2401, LPCN 2101, LPCN 2203, and any other future product candidates, including continued research efforts. A As of September 30, 2024, we had \$19.8 million of unrestricted cash, cash equivalents and marketable investment securities compared to \$22.0 million at December 31, 2023. A In September 2024, we entered into the SPC License Agreement with SPC, pursuant to which we granted to SPC a non-transferable, exclusive, royalty-bearing license to develop and commercialize our TLANDO product with respect to TRT in South Korea. Under the terms of the SPC License Agreement, SPC paid us a non-refundable, non-creditable upfront fee in October 2024. We are eligible to receive additional payments including a non-refundable, non-creditable payment in consideration for certain TLANDO product inventory, marketing authorization and sales milestones, and we will supply TLANDO to SPC and receive a supply price. In addition, we will receive royalties on net sales in the SPC Territory under the SPC License Agreement. Our ability to realize benefits from the SPC License Agreement, including milestone, product sale and royalty payments, is subject to a number of risks. We may not realize milestone, product sale or royalty payments in anticipated amounts, or at all. A On January 12, 2024, we entered into the Verity License Agreement with Verity Pharma, pursuant to which we granted to Verity Pharma an exclusive, royalty-bearing, sublicensable right and license to develop and commercialize our TLANDO product with respect to TRT in the Licensed Verity Territory. Upon execution of the Verity License Agreement in January 2024 and upon transition of the commercialization of TLANDO from Antares to Verity Pharma in February 2024, Verity Pharma paid us initial payments of \$2.5 million and \$5 million, respectively. Verity Pharma has also agreed to make additional payments to us of \$2.5 million before January 1, 2025, and \$1 million before January 1, 2026. The Verity License Agreement also provides Verity Pharma with a license to develop and commercialize TLANDO XR (LPCN 1111), our potential next generation, once daily oral product candidate for testosterone replacement therapy comprised of testosterone tridecanoate (â€œTTâ€¢) in the U.S. and Canada. We are eligible to receive milestone payments of up to \$259 million in the aggregate, depending on the achievement of certain development milestones and sales milestones in a single calendar year with respect to all products licensed by Verity Pharma under the Verity License Agreement. In addition, we receive tiered royalty payments at rates ranging from 12% up to 18% of net sales of all products licensed to Verity Pharma in the Licensed Verity Territory. Our ability to realize benefits from the Verity License Agreement, including milestone and royalty payments, is subject to a number of risks. We may not realize milestone or royalty payments in anticipated amounts, or at all. A On March 6, 2017, we entered into a sales agreement (â€œCantor Sales Agreementâ€¢) with Cantor Fitzgerald & Co. (â€œCantorâ€¢) as sales agent pursuant to which we agreed to sell shares of our common stock, having registered up to \$50.0 million for sale under the Cantor Sales Agreement. A 37 A During the three and nine months ended September 30, 2024, we sold 0 and 32,110 shares of our common stock under the Cantor Sales Agreement. On April 24, 2024, we terminated the Cantor Sales Agreement. From the inception of the Cantor Sales Agreement to the termination of the agreement, we sold in aggregate 996,821 shares of our common stock for \$33.5 million. A On April 26, 2024, we entered into a sales agreement (the â€œA.G.P. Sales Agreementâ€¢) with A.G.P./Alliance Global Partners (â€œA.G.P.â€¢) pursuant to which we may issue and sell, from time to time, shares of our common stock having an aggregate offering price of up to the amount we registered on an effective registration statement pursuant to which the offering is being made. We currently have registered up to 10,616,169 of shares of common shares for sale under the A.G.P. Sales Agreement, pursuant to the Registration Statement on Form S-3, as amended (File No. 333-275716) (the â€œForm S-3â€¢), through A.G.P. as sales agent. A.G.P. may sell our common stock by any method permitted by law deemed to be an â€œeat the market offeringâ€¢ as defined in Rule 415(a)(4) of the Securities Act, including sales made directly on or through the Nasdaq Capital Market or any other existing trade market for our common stock, in negotiated transactions at market prices prevailing at the time of sale or at prices related to prevailing market prices, or any other method permitted by law. A.G.P. will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell shares under the A.G.P. Sales Agreement. We will pay A.G.P. 3.0% of the aggregate gross proceeds from each sale of shares under the A.G.P. Sales Agreement. In addition, we have also provided A.G.P. with customary indemnification rights. A Our shares of common stock to be sold under the A.G.P. Sales Agreement will be sold and issued pursuant to the Form S-3, as amended, which was previously declared effective by the SEC, and the related prospectus and one or more prospectus supplements. A We are not obligated to make any sales of our common stock under the A.G.P. Sales Agreement. The offering of common stock pursuant to the A.G.P. Sales Agreement will terminate upon the termination of the A.G.P. Sales Agreement as permitted therein. We and A.G.P. may each terminate the A.G.P. Sales Agreement at any time upon ten daysâ€¢ prior notice. A As of September 30, 2024, we had not sold any shares under the A.G.P. Sales Agreement. A We believe that our existing capital resources, together with interest thereon, will be sufficient to meet our projected operating requirements through at least November 7, 2025 which include on-going clinical studies for LPCN 1154, research and development activities, and compliance with regulatory requirements. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect if additional activities are performed by us including new clinical studies for LPCN 2401, LPCN 2101, LPCN 2203, LPCN 1148, LPCN 1144, and/or LPCN 1107. While we believe we have sufficient liquidity and capital resources to fund our projected operating requirements through at least November 7, 2025, we will need to raise additional capital at some point through the equity or debt markets or through additional out-licensing activities, either before or after November 7, 2025, to support our operations. If we are unsuccessful in raising additional capital as necessary, our ability to continue as a going concern will be limited. Further, our operating plan may change, and we may need additional funds to meet operational needs and capital requirements for product development, regulatory compliance and clinical trial activities sooner than planned. In addition, our capital resources may be consumed more rapidly if we pursue additional clinical studies for LPCN 1154, LPCN 2401, LPCN 2101, LPCN 2203, LPCN 1148, LPCN 1144, and/or LPCN 1107. Conversely, our capital resources could last longer if we reduce expenses, reduce the number of activities currently contemplated under our operating plan or if we terminate, modify or suspend on-going clinical studies. We can raise capital pursuant to the A.G.P. Sales Agreement but may choose not to issue common stock if our market price is too low to justify such sales in our discretion. There are numerous risks and uncertainties associated with the development and, subject to approval by the FDA, commercialization of our product candidates. There are numerous risks and uncertainties impacting our ability to enter into collaborations with third parties to participate in the development and potential commercialization of our product candidates. We are unable to precisely estimate the amounts of increased capital outlays and operating expenditures associated with our anticipated or unanticipated clinical studies and ongoing development efforts. All of these factors affect our need for additional capital resources. To fund future operations, we will need to ultimately raise additional capital and our requirements will depend on many factors, including the following: A A the scope, rate of progress, results and cost of our clinical studies, pre-clinical testing and other related activities for all of our product candidates, including LPCN 1154, LPCN 2401, LPCN 2101, LPCN 2203, LPCN 1148, LPCN 1144, and LPCN 1107; A A A the cost of manufacturing clinical supplies and establishing commercial supplies, of our product candidates and any products that we may develop; A A A the cost and timing of establishing sales, marketing and distribution capabilities, if any; A A A the terms and timing of any collaborative, licensing, settlement and other arrangements that we may establish; A A A the number and characteristics of product candidates that we pursue; A 38 A A the cost, timing and outcomes of regulatory approvals; A A A the timing, receipt and amount of sales, profit sharing, milestones or royalties, if any, from our potential products; A A A the cost of preparing, filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights; A A A the extent to which we acquire or invest in businesses, products or technologies, although we currently have no commitments or agreements relating to any of these types of transactions; and A A A the extent to which we grow significantly in the number of employees or the scope of our operations. A Funding may not be available to us on favorable terms, or at all. Also, market conditions may prevent us from accessing the debt and equity capital markets, including sales of our common stock through the A.G.P. Sales Agreement. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of or suspend one or more of our clinical studies, research and development programs or, if any of our product candidates receive approval from the FDA, commercialization efforts. We may seek to raise any necessary additional capital through a combination of public or private equity offerings, including the Sales Agreement, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing and distribution arrangements. These arrangements may not be available to us or available on terms favorable to us. To the extent that we raise additional capital through marketing and distribution arrangements, other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our product candidates, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we do raise additional capital through public or private equity offerings, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences, warrants or other terms that adversely affect our stockholdersâ€¢ rights or further complicate raising additional capital in the future. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we are unable, for any reason, to raise needed capital, we will have to reduce costs, delay research and development programs, liquidate assets, dispose of rights, commercialize products or product candidates earlier than planned or on less favorable terms than desired or reduce or cease operations. A Sources and Uses of Cash A The following table provides a summary of our cash flows for the nine months ended September 30, 2024 and 2023: A A Nine Months Ended September 30, A A 2024A A 2023A Cash used in operating activitiesA (\$2,923,160)A (\$9,843,686) Cash provided by investing activitiesA 1,685,003A A 10,358,030A Cash provided by (used in) financing activitiesA A 209,340A A 409,866A A Net Cash from Operating Activities A During the nine months ended September 30, 2024 and 2023, net cash used in operating activities was \$2.9 million and \$9.8 million, respectively. A Net cash used in operating activities during the nine months ended September 30, 2024, was primarily attributable to cash required to support ongoing operations, including research and development expenses primarily related to our LPCN 1154 clinical studies and manufacturing scale up in addition to general and administrative expenses, offset by cash provided by the Verity License Agreement of \$7.5 million. Net cash used in operating activities during the nine months ended September 30, 2023, was primarily attributable to cash outlays to support ongoing operations, including research and development expenses primarily related to our LPCN 1154 clinical studies, our LPCN 1148 Phase 2 POC study in male subjects with cirrhosis, and TLANDO manufacturing capabilities in addition to general and administrative expenses. A Net Cash from Investing Activities A During the nine months ended September 30, 2024 and 2023, net cash provided by investing activities was \$1.7 million and \$10.4 million, respectively. A 39 A A Net cash provided by investing activities during the nine months ended September 30, 2024 and September 30, 2023, was primarily the result of the maturities of marketable investments securities, net. Capital expenditures during the nine months ended September 30, 2024 and 2023 were approximately \$80,000 and \$4,000, respectively. A Net Cash from Financing Activities A During the nine months ended September 30, 2024 and 2023, net cash provided by financing activities was approximately \$209,000 and \$410,000, respectively. A Net cash provided by financing activities during the nine months ended September 30, 2024, resulted primarily from the sale of 32,110 shares of common stock at a weighted average price of \$6.77 per share, less costs associated with the Cantor Sales Agreement. Net cash provided by financing activities during the nine months ended September 30, 2023 was related to the sale of 81,000 shares of our common stock at a weighted average price of \$5.36 per share, less costs associated with the Cantor Sales Agreement. A Contractual Commitments and Contingencies A Purchase Obligations A We enter into contracts and issue purchase orders in the normal course of business with clinical research organizations for clinical trials and clinical and commercial supply manufacturing and with vendors for pre-clinical research studies, research supplies and other services and products for operating purposes. These contracts generally provide for termination on notice and are cancellable obligations. A Operating Leases A In August 2004, we entered into an agreement to lease our facility in Salt Lake City, Utah consisting of office and laboratory space which serves as our corporate headquarters. On January 24, 2024, we modified and extended the lease through February 28, 2025. A Critical Accounting Policies and Significant Judgments and Estimates A Our managementâ€¢s discussion and analysis of our financial condition and results of operations is based on our financial statements which we have prepared in accordance with U.S. GAAP. In preparing our financial statements, we are required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We concluded that licensing revenue recognized in conjunction with the Verity License Agreement met the requirements under ASC 606, Revenue from Contracts with Customers. We evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition. License revenue from payments to be received in the future will be recognized when it is probable that we will receive license payments under the terms of the Verity License Agreement, the SPC License Agreement or the Pharmedica License Agreement (see Footnote 13 â€¢ Subsequent Events for disclosure regarding the SPC License Agreement and the Pharmedica License Agreement). A There have been no significant and material changes in our critical accounting policies during the nine months ended September 30, 2024, as compared to those disclosed in â€œManagementâ€¢s Discussion and Analysis of Financial Condition and Results of Operations-Critical Accounting Policies and Significant Judgments and Estimatesâ€¢ in our 2023 Form 10-K. A Accounting Standards Issued Not Adopted A In November 2023, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures, which enhances reporting requirements under Topic 280. The enhanced disclosure requirements include: title and position of the Chief Operating Decision Maker (CODM), significant segment expenses provided to the CODM, extending certain annual disclosures to interim periods, clarifying single reportable segment entities must apply ASC 280 in its entirety, and permitting more than one measure of segment profit or loss to be reported under certain circumstances. This change is effective for fiscal years beginning after December 15, 2023 and interim periods beginning after December 15, 2024. This change will apply retrospectively to all periods presented. Management is currently assessing the impact of the adoption of this ASU on the financials statements of the Company. A 40 A ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK A We are exposed to various market risks, which include potential losses arising from adverse changes in market rates and prices, such as interest rates. We do not enter into derivatives or other financial instruments for trading or speculative purposes. A There have been no material changes to the Companyâ€¢s market risk during the first nine months of 2024. For a discussion of the Companyâ€¢s exposure to market risk, refer to the Companyâ€¢s market risk disclosures set forth in Part II, Item 7A, â€œQuantitative and Qualitative Disclosures About Market Riskâ€¢ of the 2023 Form 10-K. A ITEM 4. CONTROLS AND PROCEDURES A Evaluation of Disclosure Controls and Procedures A We maintain â€œdisclosure controls and proceduresâ€¢ within the meaning of Rule 13a-15(e) of the Exchange Act. Our disclosure controls and procedures, (â€œDisclosure Controlsâ€¢) are designed to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act, such as this Quarterly Report on Form 10-Q, is

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Disclosure - Fair Value (Tables) link:presentationLink link:calculationLink link:definitionLink 995628 - Disclosure - Leases (Tables) link:presentationLink link:calculationLink link:definitionLink 995629 - Disclosure - Stockholders' Equity (Tables) link:presentationLink link:calculationLink link:definitionLink 995630 - Disclosure - Basis of Presentation (Details Narrative) link:presentationLink link:calculationLink link:definitionLink 995631 - Disclosure - Revenue (Details Narrative) link:presentationLink link:calculationLink link:definitionLink 995632 - Disclosure - Schedule of Computation of Basic and Diluted Earnings (Loss) Per Share of Common Stock (Details) link:presentationLink link:calculationLink link:definitionLink 995633 - Disclosure - Schedule of Anti-dilutive Securities Excluded from Computation of Earnings Per Share (Details) link:presentationLink link:calculationLink link:definitionLink 995634 - Disclosure - Schedule of Available for Sale Securities (Details) link:presentationLink link:calculationLink link:definitionLink 995635 - Disclosure - Schedule of Maturities of Debt Securities Classified as Available-for-Sale Securities (Details) link:presentationLink link:calculationLink link:definitionLink 995636 - Disclosure - Marketable Investment Securities (Details Narrative) link:presentationLink link:calculationLink link:definitionLink 995637 - Disclosure - Schedule of Fair Value, Assets and Liabilities Measured on Recurring Basis (Details) link:presentationLink link:calculationLink link:definitionLink 995638 - Disclosure - Fair Value (Details Narrative) link:presentationLink link:calculationLink link:definitionLink 995639 - Disclosure - Contractual Agreements (Details Narrative) link:presentationLink link:calculationLink link:definitionLink 995640 - Disclosure - Schedule of Future Minimum Rental Payments for Operating Leases (Details) link:presentationLink link:calculationLink link:definitionLink 995641 - Disclosure - Leases (Details Narrative) link:presentationLink link:calculationLink link:definitionLink 995642 - Disclosure - Schedule of Employee Service Share-based Compensation, Allocation of Recognized Period Costs (Details) link:presentationLink link:calculationLink link:definitionLink 995643 - Disclosure - Schedule of Key Assumption of Fair Value of Stock Options Granted (Details) link:presentationLink link:calculationLink link:definitionLink 995644 - Disclosure - Schedule of Stock Option Activity (Details) link:presentationLink link:calculationLink link:definitionLink 995645 - Disclosure - Schedule of Share-based Compensation of Stock Options Outstanding and Exercisable (Details) link:presentationLink link:calculationLink link:definitionLink 995646 - Disclosure - Summary of Restricted Stock Unit Activity (Details) link:presentationLink link:calculationLink link:definitionLink 995647 - Disclosure - Schedule of Fair Value of Warrants (Details) link:presentationLink link:calculationLink link:definitionLink 995648 - Disclosure - Schedule of Reconciliation of Warrant Liability (Details) link:presentationLink link:calculationLink link:definitionLink 995649 - Disclosure - Schedule of Number of Warrants Outstanding and the Weighted Average Exercise Price (Details) link:presentationLink link:calculationLink link:definitionLink 995650 - Disclosure - Schedule of Common Stock Warrants Outstanding (Details) link:presentationLink link:calculationLink link:definitionLink 995651 - Disclosure - Stockholders' Equity (Details Narrative) link:presentationLink link:calculationLink link:definitionLink 995652 - Disclosure - Commitments and Contingencies (Details Narrative) link:presentationLink link:calculationLink link:definitionLink 995653 - Disclosure - Agreement with Spriaso, LLC (Details Narrative) link:presentationLink link:calculationLink link:definitionLink EX-101.CAL 8 lpcn-20240930_cal.xml XBRL CALCULATION FILE EX-101.DEF 9 lpcn-20240930_def.xml XBRL DEFINITION FILE EX-101.LAB 10 lpcn-20240930_lab.xml XBRL LABEL FILE Equity Components [Axis] Preferred Stock [Member] Class of Stock [Axis] Series B Preferred Stock [Member] Common Stock [Member] Treasury Stock, Common [Member] Additional Paid-in Capital [Member] AOCI Attributable to Parent [Member] Retained Earnings [Member] Collaborative Arrangement and Arrangement Other than Collaborative [Axis] License Agreement [Member] Legal Entity [Axis] Gordon Silver Limited [Member] Scenario [Axis] Forecast [Member] Statistical Measurement [Axis] Minimum [Member] Maximum [Member] Customer [Axis] Major Customer [Member] Concentration Risk Benchmark [Axis] Revenue Benchmark [Member] Concentration Risk Type [Axis] Customer Concentration Risk [Member] Verity License Agreement [Member] One Major Customer [Member] Related and Nonrelated Parties [Axis] Spriaso [Member] Product and Service [Axis] License [Member] Award Type [Axis] Stock Options [Member] Restricted Stock Units (RSUs) [Member] Option Indexed to Issuer's Equity [Axis] Share-Based Payment Arrangement, Option [Member] Financial Instrument [Axis] Warrant [Member] US Treasury Securities [Member] U.S. Government Agency Securities [Member] Cash and Cash Equivalents [Axis] Money Market Funds [Member] Fair Value Hierarchy and NAV [Axis] Fair Value, Inputs, Level 1 [Member] Fair Value, Inputs, Level 2 [Member] Fair Value, Inputs, Level 3 [Member] US Government Corporations and Agencies Securities [Member] Antares License Agreement [Member] Royalty Agreement Terms [Member] Abbott Products, Inc. [Member] Sales Agreement [Member] A.G.P [Member] Cantor Sales Agreement [Member] Option Indexed to Issuer's Equity, Type [Axis] Restricted Stock [Member] Stock Incentive Plan 2014 [Member] 2011 Equity Incentive Plan [Member] Sale of Stock [Axis] November 2019 Offering [Member] February 2020 Offering [Member] Statement of Income Location, Balance [Axis] Research and Development Expense [Member] General and Administrative Expense [Member] Options [Member] License and Service Agreement [Member] Spriaso LLC [Member] Service Agreement [Member] Cover [Abstract] Document Type Amendment Flag Amendment Description Document Registration Statement Document Annual Report Document Quarterly Report Document Transition Report Document Shell Company Report Document Shell Company Event Date Document Period Start Date Document Period End Date Document Fiscal Period Focus Document Fiscal Year Focus Current Fiscal Year End Date Entity File Number Entity Registrant Name Entity Central Index Key Entity Primary SIC Number Entity Tax Identification Number Entity Incorporation, State or Country Code Entity Address, Address Line One Entity Address, Address Line Two Entity Address, Address Line Three Entity Address, City or Town Entity Address, State or Province Entity Address, Country Entity Address, Postal Zip Code Country Region City Area Code Local Phone Number Extension Written Communications Soliciting Material Pre-commencement Tender Offer Pre-commencement Issuer Tender Offer Title of 12(b) Security No Trading Symbol Flag Trading Symbol Security Exchange Name Title of 12(g) Security Security Reporting Obligation Annual Information Form Audited Annual Financial Statements Entity Well-known Seasoned Issuer Entity Voluntary Filers Entity Current Reporting Status Entity Interactive Data Current Entity Filer Category Entity Small Business Entity Emerging Growth Company Elected Not To Use the Extended Transition Period Document Accounting Standard Other Reporting Standard Item Number Entity Shell Company Entity Public Float Entity Bankruptcy Proceedings, Reporting Current Entity Common Stock, Shares Outstanding Documents Incorporated by Reference [Text Block] Statement of Financial Position [Abstract] Assets Current assets: Cash and cash equivalents Marketable investment securities Accrued interest income Prepaid and other current assets Total current assets Property and equipment, net of accumulated depreciation of \$1,207,726 and \$1,182,191 respectively Other assets Total assets Liabilities and Stockholders' Equity Current liabilities: Accounts payable Accrued expenses Warrant liability Total current liabilities Total liabilities Commitments and contingencies (notes 7, 8, 9 and 10) Stockholders' equity: Common stock, par value \$0.0001 per share, 200,000,000 shares authorized; 5,348,276 and 5,316,166 issued, and 5,347,940 and 5,315,830 outstanding, respectively outstanding Additional paid-in capital Treasury stock at cost, 336 shares Accumulated other comprehensive gain (loss) Accumulated deficit Total stockholders' equity Total liabilities and stockholders' equity Accumulated depreciation Common stock, par value Common stock, shares authorized Common stock, shares issued Common stock, shares outstanding Treasury stock, shares Income Statement [Abstract] Revenues: License revenue Royalty revenue Minimum guaranteed royalties revenue (reversal of variable consideration) Total revenues Operating expenses: Research and development General and administrative Total operating expenses Operating loss Other income: Interest and investment income Unrealized gain on warrant liability Total other income Loss before income tax expense Income tax expense Net loss Issuance of Series B preferred stock dividend Net loss attributable to common shareholders Basic loss per share attributable to common stock Weighted average common shares outstanding, basic Diluted loss per share attributable to common stock Weighted average common shares outstanding, diluted Comprehensive loss: Net loss Net unrealized gain on marketable investment securities Comprehensive loss Statement [Table] Statement [Line Items] Balance Balance, shares Balance, shares Net income (loss) Unrealized net gain on marketable investment securities Stock-based compensation Common stock sold through ATM offering, net of costs Common stock sold through ATM offering, net of costs, shares Issuance of Series B preferred stock Issuance of Series B preferred stock, shares Redemption of Series B preferred stock Redemption of Series B preferred stock, shares Balance Balance, shares Balance, shares Statement of Cash Flows [Abstract] Cash flows from operating activities: Adjustments to reconcile net loss to cash used in operating activities: Depreciation expense Stock-based compensation expense Non-cash gain on change in fair value of warrant liability Amortization of discounts on marketable investment securities Write off of contract asset due to variable consideration revenue reversal changes in operating assets and liabilities: Accrued interest income Contract asset Prepaid and other current assets Accounts payable Accrued expenses Cash used in operating activities Cash flows from investing activities: Purchase of property and equipment Purchases of marketable investment securities Maturities of marketable investment securities Net cash provided by investing activities Cash flows from financing activities: Net proceeds from sale of common stock through ATM Cash provided by financing activities Net increase (decrease) in cash and cash equivalents Cash and cash equivalents at beginning of period Cash and cash equivalents at end of period Supplemental disclosure of cash flow information: Income taxes paid Supplemental disclosure of non-cash investing and financing activities: Net unrealized gain on available-for-sale securities Issuance of Series B preferred stock Pay vs Performance Disclosure [Table] Executive Category [Axis] Individual [Axis] Adjustment to Compensation [Axis] Measure [Axis] Pay vs Performance Disclosure, Table Company Selected Measure Name Named Executive Officers, Footnote Peer Group Issuers, Footnote Changed Peer Group, Footnote PEO Total Compensation Amount PEO Actually Paid Compensation Amount Adjustment to PEO Compensation, Footnote Non-PEO NEO Average Total Compensation Amount Non-PEO NEO Average Compensation Actually Paid Amount Adjustment to Non-PEO NEO Compensation Footnote Equity Valuation Assumption Difference, Footnote Compensation Actually Paid vs. Total Shareholder Return Compensation Actually Paid vs. Net Income Compensation Actually Paid vs. Company Selected Measure Total Shareholder Return Vs Peer Group Compensation Actually Paid vs. Other Measure Tabular List, Table Total Shareholder Return Amount Peer Group Total Shareholder Return Amount Net Income (Loss) Company Selected Measure Amount Other Performance Measure, Amount Adjustment to Compensation, Amount PEO Name Name Non-GAAP Measure Description Additional 402(v) Disclosure Pension Benefits Adjustments, Footnote Erroneously Awarded Compensation Recovery [Table] Restatement Determination Date [Axis] Restatement Determination Date Aggregate Erroneous Compensation Amount Erroneous Compensation Analysis Stock Price or TSR Estimation Method Outstanding Aggregate Erroneous Compensation Amount Aggregate Erroneous Compensation Not Yet Determined Name Forgone Recovery due to Expense of Enforcement, Amount Forgone Recovery due to Violation of Home Country Law, Amount Forgone Recovery due to Disqualification of Tax Benefits, Amount Forgone Recovery, Explanation of Impracticability Name Compensation Amount Restatement does not require Recovery Awards Close in Time to MNPI Disclosures [Table] Award Timing MNPI Disclosure Award Timing Method Award Timing Predetermined Award Timing MNPI Considered Award Timing, How MNPI Considered MNPI Disclosure Timed for Compensation Value Awards Close in Time to MNPI Disclosures, Table Name Underlying Securities Exercise Price Fair Value as of Grant Date Underlying Security Market Price Change Insider Trading Arrangements [Line Items] Material Terms of Trading Arrangement Name Title Rule 10b5-1 Arrangement Adopted Non-Rule 10b5-1 Arrangement Adopted Adoption Date Rule 10b5-1 Arrangement Terminated Non-Rule 10b5-1 Arrangement Terminated Termination Date Expiration Date Arrangement Duration Insider Trading Policies and Procedures [Line Items] Insider Trading Policies and Procedures Adopted Insider Trading Policies and Procedures Not Adopted Accounting Policies [Abstract] Basis of Presentation Revenue from Contract with Customer [Abstract] Revenue Earnings Per Share [Abstract] Loss per Share Investments, Debt and Equity Securities [Abstract] Marketable Investment Securities Fair Value Disclosures [Abstract] Fair Value Income Tax Disclosure [Abstract] Income Taxes Health Care Organizations [Abstract] Contractual Agreements Leases Leases Equity [Abstract] Stockholders' Equity Commitments and Contingencies Disclosure [Abstract] Commitments and Contingencies Related Party Transactions [Abstract] Agreement with Spriaso, LLC Accounting Changes and Error Corrections [Abstract] Recent Accounting Pronouncements Subsequent Events [Abstract] Subsequent Events Schedule of Computation of Basic and Diluted Earnings (Loss) Per Share of Common Stock Schedule of Anti-dilutive Securities Excluded from Computation of Earnings Per Share Schedule of Available for Sale Securities Schedule of Maturities of Debt Securities Classified as Available-for-Sale Securities Schedule of Fair Value, Assets and Liabilities Measured on Recurring Basis Schedule of Future Minimum Rental Payments for Operating Leases Schedule of Employee Service Share-based Compensation, Allocation of Recognized Period Costs Schedule of Key Assumption of Fair Value of Stock Options Granted Schedule of Stock Option Activity Schedule of Share-based Compensation of Stock Options Outstanding and Exercisable Summary of Restricted Stock Unit Activity Schedule of Fair Value of Warrants Schedule of Reconciliation of Warrant Liability Schedule of Number of Warrants Outstanding and the Weighted Average Exercise Price Schedule of Common Stock Warrants Outstanding License fee Initial payment Milestone payment Royalty payments percentage Reverse stock split Disaggregation of Revenue [Table] Disaggregation of Revenue [Line Items] Concentration risk, percentage Royalty recognised Licensing revenue Revenues Schedule of Share-Based Compensation Arrangements by Share-Based Payment Award [Table] Share-Based Compensation Arrangement by Share-Based Payment Award [Line Items] Weighted avg. common shares outstanding Basic earnings loss per share attributable to common stock Effect of dilutive securities on net loss: Common stock warrants Total net loss for purpose of calculating diluted loss per common share Weighted average effect of dilutive securities: Dilutive securities Total shares for purpose of calculating diluted net loss per common share Option Indexed to Issuer's Equity, Equity [Table] Option Indexed to Issuer's Equity [Line Items] Antidilutive securities excluded from computation of earnings per share, amount Marketable Securities [Table] Marketable Securities [Line Items] Amortized Cost Gross unrealized holding gains Gross unrealized holding losses Aggregate fair value Due within one year, Amortized Cost Due within one year, Aggregate fair value Sales of marketable investment securities Realized gains or losses Matured marketable investment securities Other-than-temporary impairments Fair Value, Recurring and Nonrecurring [Table] Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items] Assets Liabilities Fair value of assets and liabilities Volatility, rate Risk-free interest rate Strike price Fair value of common stock Warrants expiring date Expected life Payments to be made for license fees Milestone revenue to be received Royalty payments rates Minimum guaranteed royalties revenue Revenue Percentage of net sales Royalties, commitment amount Percentage of royalties reduction based upon product launch Royalty expense Contract research and development expenses Schedule Of Future Minimum Rental Payments For Operating Leases 2024 2025 Total minimum lease payments Rent expense Total Debt Securities, Held-to-Maturity, Allowance for Credit Loss [Table] Debt Securities, Held-to-Maturity, Allowance for Credit Loss [Line Items] Expected term Expected dividend yield Expected volatility Option Indexed to Issuer's Equity [Table] Number of shares, beginning balance Weighted average exercise price, beginning balance Number of shares, Options granted Weighted average exercise price, Options granted Number of shares, Options exercised Weighted average exercise price, Options exercised Number of shares, Options forfeited Weighted average exercise price, Options forfeited Number of shares, Options cancelled Weighted average exercise price, Options cancelled Number of shares, ending balance Weighted average exercise price, ending balance Number of shares, options exercisable Weighted average exercise price, options exercisable Number of options outstanding Options outstanding, Weighted average remaining contractual life (Years) Options outstanding, Weighted average exercise price Options outstanding, Aggregate intrinsic value Number of options exercisable Options exercisable, Weighted average remaining contractual life (Years) Options exercisable, Weighted average exercise price Options exercisable, Aggregate intrinsic value Number of shares, Options vested Number of shares, Options cancelled Class of Warrant or Right [Table] Class of Warrant or Right [Line Items] Expected life in years Dividend yield Volatility Stock price Balance at December 31, 2023 Change in fair value of common stock warrants Balance at September 30, 2024 Warrants Outstanding, Beginning Weighted Average Exercise Price, Outstanding, Beginning Warrants, Issued Weighted Average Exercise Price, Issued Warrants, Exercised Weighted Average Exercise Price, Exercised Warrants, Expired Weighted Average Exercise Price, Expired Warrants, Cancelled Weighted Average Exercise Price, Cancelled Warrants, Forfeited Weighted Average Exercise Price, Forfeited Warrants Outstanding, Ending Weighted Average Exercise Price, Outstanding, Ending Accumulated

Other Comprehensive Income (Loss) [Table] Accumulated Other Comprehensive Income (Loss) [Line Items] Number of warrants exercisable, shares Warrants outstanding, Weighted average remaining contractual life Warrants outstanding, Weighted average exercise price Warrants outstanding, Aggregate intrinsic value Stock, Class of Stock [Table] Class of Stock [Line Items] Reverse stock split, description Fair value of shares issued during the period Percentage of gross proceeds on sale of shares Stock issued during period, shares, new issues Shares issued, price per share Proceeds from issuance of common stock, gross Net proceeds from common stock offering Number of shares issued Preferred stock, stated par value Preferred stock, shares issued Preferred stock voting rights, description Preferred stock redemption terms Preferred stock redemption price Number of shares, Options granted (in shares) Unrecognized compensation cost Share based payment arrangement, nonvested award, cost not yet recognized, period for recognition Unrecognized compensation cost of restricted stock units Aggregate number of shares authorized for issuance Shares remaining available for grant Options granted contractual life Option exercises, shares Restricted stock units Weighted average grant date fair value of restricted stock units Warrants outstanding Non-cash loss on change in fair value of warrant liability Issued Exercised Payments for legal settlements Collaborative Arrangement and Arrangement Other than Collaborative [Table] Collaborative Arrangement and Arrangement Other than Collaborative [Line Items] Percentage of royalty Proceeds from contributions from affiliates Agreement description Licensing revenue U S Government Agency Securities [Member] Revenue recognition services licensing fees. Royalty revenue. Minimum guaranteed royalties revenue reversal of variable consideration. License fee. Verity License Agreement [Member] Gordon Silver Limited [Member] Payments will be made for license fees. Sales milestone revenue recognized. Revenue reversal of variable consideration. Antares License Agreement [Member] Sales milestone revenue to be recognize. Percentage of royalty payment. Percentage of net sales. Abbott Products Inc [Member] Percentage of royalties reduction based upon product launch. Sales agreement [Member] A.G.P [Member] Percentage of gross proceeds on sale of shares Cantor Sales Agreement [Member] The cash inflow from the additional capital contribution to the entity. Issuance of series B preferred stock. Write off of contract asset due to variable consideration revenue reversal. License Agreement [Member] Options [Member] Stock Incentive Plan 2014 [Member] 2011 Equity Incentive Plan [Member] Major Customer [Member] One Major Customer [Member] Spriaso [Member] November 2019 Offering [Member] Schedule of Fair Value of Warrants [Table Text Block] Schedule of Reconciliation of Warrant Liability [Table Text Block] February2020 Offering [Member] Share based compensation arrangement by share based payment award non option equity instruments cancelled. Weighted average Exercise Price, period Weighted average Exercise Price, issued. Share based compensation arrangement by share based payment award equity instruments other than option exercised weighted average exercise price. Share based compensation arrangement by share based payment award equity instruments other than option expired weighted average exercise price. Share based compensation arrangement by share based payment award equity instruments other than option cancelled weighted average exercise price. Share based compensation arrangement by share based payment award equity instruments other than option forfeited weighted average exercise price. Stock issued during period value stock dividends. Schedule of common stock warrants outstanding [Table Text Block] Weighted average remaining contractual term for equity-based awards excluding non-options, in 'PnYnMnDTnHnMnS' format, for example, 'P1Y5M13D' represents the reported fact of one year, five months, and thirteen days. Intrinsic value of outstanding award under share-based payment arrangement. Excludes share and unit options. Percentage of royalty. License and Service Agreement [Member] Spriaso LLC [Member] Agreement description. Service Agreement [Member] SPC License Agreement [Member] Pharmalink License Agreement [Member] Stock Options [Member] This item represents an increase to the cumulative amount of credit losses recognized in earnings for an other than temporary impairment (OTTI) of a debt security held for which no such other than temporary impairment (OTTI) was previously recognized. Assets, Current Assets [Default Label] Liabilities, Current Liabilities [Default Label] Treasury Stock, Value Equity, Attributable to Parent Liabilities and Equity Operating Expenses Operating Income (Loss) Nonoperating Income (Expense) Income (Loss) from Continuing Operations before Income Taxes, Noncontrolling Interest Income Tax Expense (Benefit) Preferred Stock Dividends, Income Statement Impact Net Income (Loss) Available to Common Stockholders, Basic Comprehensive Income (Loss), Net of Tax, Attributable to Parent Temporary Equity, Shares Outstanding Shares, Outstanding Accretion (Amortization) of Discounts and Premiums, Investments Increase (Decrease) in Accrued Interest Receivable, Net Increase (Decrease) in Contract with Customer, Asset Increase (Decrease) in Prepaid Expense and Other Assets Increase (Decrease) in Accounts Payable Increase (Decrease) in Accrued Liabilities Net Cash Provided by (Used in) Operating Activities Payments to Acquire Property, Plant, and Equipment Payments to Acquire Debt Securities, Available-for-Sale Net Cash Provided by (Used in) Investing Activities Net Cash Provided by (Used in) Financing Activities Cash, Cash Equivalents, Restricted Cash, and Restricted Cash Equivalents, Period Increase (Decrease), Including Exchange Rate Effect Cash, Cash Equivalents, Restricted Cash, and Restricted Cash Equivalents, Including Disposal Group and Discontinued Operations Dividends, Preferred Stock, Stock Forgone Recovery, Individual Name Outstanding Recovery, Individual Name Awards Close in Time to MNPI Disclosures, Individual Name Trading Arrangement, Individual Name Lessee, Operating Leases [Text Block] Debt Securities, Available-for-Sale, Accumulated Gross Unrealized Loss, before Tax Revenue from Contract with Customer, Excluding Assessed Tax Lessee, Operating Lease, Liability, to be Paid Share-Based Compensation Arrangement by Share-Based Payment Award, Options, Forfeitures in Period Share-Based Compensation Arrangement by Share-Based Payment Award, Options, Expirations in Period EX-101.PRE 11 lpcn-20240930_pre.xml XBRL PRESENTATION FILE XML 13 R1.htm IDEA: XBRL DOCUMENT"

Cover - shares	9 Months Ended Sep. 30, 2024	Nov. 06, 2024
Cover [Abstract]		
Document Type	10-Q	
Amendment Flag	false	
Document Quarterly Report	true	
Document Transition Report	false	
Document Period End Date	Sep. 30, 2024	
Document Fiscal Period Focus	Q3	
Document Fiscal Year Focus	2024	
Current Fiscal Year End Date	--12-31	
Entity File Number	001-36357	
Entity Registrant Name	LIPOCINE INC.	
Entity Central Index Key	0001535955	
Entity Tax Identification Number	99-0370688	
Entity Incorporation, State or Country Code	DE	
Entity Address, Address Line One	675 Arapeen Drive	
Entity Address, Address Line Two	Suite 202	
Entity Address, City or Town	Salt Lake City	
Entity Address, State or Province	UT	
Entity Address, Postal Zip Code	84108	
City Area Code	801	
Local Phone Number	994-7383	
Title of 12(b) Security	Common Stock, par value \$0.0001 per share	
Trading Symbol	LPCN	
Security Exchange Name	NASDAQ	
Entity Current Reporting Status	Yes	
Entity Interactive Data Current	Yes	
Entity Filer Category	Non-accelerated Filer	
Entity Small Business	true	
Entity Emerging Growth Company	false	
Entity Shell Company	false	
Entity Common Stock, Shares Outstanding		5,347,940

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Condensed Consolidated Balance Sheets (Unaudited) - USD (\$)	Sep. 30, 2024	Dec. 31, 2023
Current assets:		
Cash and cash equivalents	\$ 3,742,941	\$ 4,771,758
Marketable investment securities	16,080,691	17,263,788
Accrued interest income	91,482	52,254
Prepaid and other current assets	588,824	773,424
Total current assets	20,503,938	22,861,224
Property and equipment, net of accumulated depreciation of \$1,207,726 and \$1,182,191 respectively	170,627	116,095
Other assets	23,753	23,753
Total assets	20,698,318	23,001,072
Current liabilities:		
Accounts payable	285,347	1,395,977
Accrued expenses	1,292,285	1,218,486
Warrant liability	3,586	17,166
Total current liabilities	1,581,218	2,631,629
Total liabilities	1,581,218	2,631,629
Commitments and contingencies (notes 7, 8, 9 and 10)		
Stockholders' equity:		
Common stock, par value \$0.0001 per share, 200,000,000 shares authorized; 5,348,276 and 5,316,166 issued, and 5,347,940 and 5,315,830 outstanding, respectively outstanding	8,863	8,860
Additional paid-in capital	220,690,052	220,171,250
Treasury stock at cost, 336 shares	(40,712)	(40,712)
Accumulated other comprehensive gain (loss)	9,942	7,259
Accumulated deficit	(201,551,045)	(199,777,214)
Total stockholders' equity	19,117,100	20,369,443
Total liabilities and stockholders' equity	\$ 20,698,318	\$ 23,001,072

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Condensed Consolidated Balance Sheets (Unaudited)	Sep. 30, 2024	Dec. 31, 2023
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(Parenthetical) - USD
(\$)

Statement of Financial Position [Abstract]

Accumulated depreciation	\$ 1,207,726	\$ 1,182,191
Common stock, par value	\$ 0.0001	\$ 0.0001
Common stock, shares authorized	200,000,000	200,000,000
Common stock, shares issued	5,348,276	5,316,166
Common stock, shares outstanding	5,347,940	5,315,830
Treasury stock, shares	336	336

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Condensed Consolidated Statements of Operations and Comprehensive Loss (Unaudited) - USD (\$)	3 Months Ended		9 Months Ended	
	Sep. 30, 2024	Sep. 30, 2023	Sep. 30, 2024	Sep. 30, 2023

Revenues:

License revenue			\$ 7,500,000	\$ 54,990
Royalty revenue			206,738	
Minimum guaranteed royalties revenue (reversal of variable consideration)	(3,121,996)			(3,121,996)
Total revenues	(3,121,996)		7,706,738	(3,067,006)

Operating expenses:

Research and development	1,585,233	2,878,798	6,278,881	8,500,319
General and administrative	1,045,240	1,042,572	4,128,371	3,770,281
Total operating expenses	2,630,473	3,921,370	10,407,252	12,270,600
Operating loss	(2,630,473)	(7,043,366)	(2,700,514)	(15,337,606)

Other income:

Interest and investment income	273,574	317,569	913,784	1,067,561
Unrealized gain on warrant liability	138,081	74,827	13,580	200,416
Total other income	411,655	392,396	927,364	1,267,977
Loss before income tax expense	(2,218,818)	(6,650,970)	(1,773,150)	(14,069,629)
Income tax expense			(681)	(200)
Net loss	(2,218,818)	(6,650,970)	(1,773,831)	(14,069,829)
Issuance of Series B preferred stock dividend				(89)
Net loss attributable to common shareholders	\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,918)
Basic loss per share attributable to common stock	\$ (0.41)	\$ (1.26)	\$ (0.33)	\$ (2.68)
Weighted average common shares outstanding, basic	5,347,940	5,292,058	5,335,941	5,254,116
Diluted loss per share attributable to common stock	\$ (0.44)	\$ (1.27)	\$ (0.33)	\$ (2.72)
Weighted average common shares outstanding, diluted	5,347,940	5,292,058	5,335,941	5,254,116

Comprehensive loss:

Net loss	\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,829)
Net unrealized gain on marketable investment securities	19,661	1,309	2,683	5,818
Comprehensive loss	\$ (2,199,157)	\$ (6,649,661)	\$ (1,771,148)	\$ (14,064,011)

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Condensed Consolidated Statements of Changes in Stockholders' Equity (Unaudited) - USD (\$)	Preferred Stock [Member] Series B Preferred Stock [Member]	Common Stock [Member]	Treasury Stock, Common [Member]	Additional Paid-in Capital [Member]	AOCI Attributable to Parent [Member]	Retained Earnings [Member]	Total
Balance at Dec. 31, 2022		\$ 8,852	\$ (40,712)	\$ 219,112,164	\$ (20,321)	\$ (183,425,043)	\$ 35,634,940
Balance, shares at Dec. 31, 2022							
Balance, shares at Dec. 31, 2022		5,234,830	336				
Net income (loss)						(14,069,829)	(14,069,829)
Unrealized net gain on marketable investment securities					5,818		5,818
Stock-based compensation				500,727			500,727
Common stock sold through ATM offering, net of costs		\$ 8		409,858			409,866
Common stock sold through ATM offering, net of costs, shares		81,000					
Issuance of Series B preferred stock	\$ 9			80		(89)	(9)
Issuance of Series B preferred stock, shares	88,511						
Redemption of Series B preferred stock	\$ (9)			9			9
Redemption of Series B preferred stock, shares	(88,511)						
Balance at Sep. 30, 2023		\$ 8,860	\$ (40,712)	220,022,838	(14,503)	(197,494,961)	22,481,522
Balance, shares at Sep. 30, 2023							
Balance, shares at Sep. 30, 2023		5,315,830	336				
Balance at Jun. 30, 2023		\$ 8,852	\$ (40,712)	219,443,674	(15,812)	(190,843,991)	28,552,011
Balance, shares at Jun. 30, 2023							
Balance, shares at Jun. 30, 2023		5,234,830	336				
Net income (loss)						(6,650,970)	(6,650,970)
Unrealized net gain on marketable investment securities					1,309		1,309
Stock-based compensation				158,090			158,090
Common stock sold through ATM offering, net of costs		\$ 8		421,074			421,082
Common stock sold through ATM offering, net of costs, shares		81,000					
Balance at Sep. 30, 2023		\$ 8,860	\$ (40,712)	220,022,838	(14,503)	(197,494,961)	22,481,522
Balance, shares at Sep. 30, 2023							
Balance, shares at Sep. 30, 2023		5,315,830	336				
Balance at Dec. 31, 2023		\$ 8,860	\$ (40,712)	220,171,250	7,259	(199,777,214)	20,369,443
Balance, shares at Dec. 31, 2023							
Balance, shares at Dec. 31, 2023		5,315,830	336				
Net income (loss)						(1,773,831)	(1,773,831)
Unrealized net gain on marketable investment securities					2,683		2,683
Stock-based compensation				309,465			309,465
Common stock sold through ATM offering, net of costs		\$ 3		209,337			209,340
Common stock sold through ATM offering, net of costs, shares		32,110					
Balance at Sep. 30, 2024		\$ 8,863	\$ (40,712)	220,690,052	9,942	(201,551,045)	19,117,100
Balance, shares at Sep. 30, 2024							
Balance, shares at Sep. 30, 2024		5,347,940	336				
Balance at Jun. 30, 2024		\$ 8,863	\$ (40,712)	220,582,158	(9,719)	(199,332,227)	21,208,363
Balance, shares at Jun. 30, 2024							

Balance, shares at Jun. 30, 2024	5,347,940	336				
Net income (loss)					(2,218,818)	(2,218,818)
Unrealized net gain on marketable investment securities				19,661		19,661
Stock-based compensation			107,894			107,894
Balance at Sep. 30, 2024	\$ 8,863	\$ (40,712)	\$ 220,690,052	\$ 9,942	\$ (201,551,045)	\$ 19,117,100

Balance, shares at Sep. 30, 2024
Balance, shares at Sep. 30, 2024
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Condensed Consolidated Statements of Cash Flows (Unaudited) - USD (\$)	9 Months Ended	
	Sep. 30, 2024	Sep. 30, 2023

Cash flows from operating activities:

Net loss	\$ (1,773,831)	\$ (14,069,829)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation expense	25,535	20,658
Stock-based compensation expense	309,465	500,727
Non-cash gain on change in fair value of warrant liability	(13,580)	(200,416)
Amortization of discounts on marketable investment securities	(579,290)	(750,092)
Write off of contract asset due to variable consideration revenue reversal		3,121,995

Changes in operating assets and liabilities:

Accrued interest income	(39,228)	39,366
Contract asset		579,428
Prepaid and other current assets	184,600	351,222
Accounts payable	(1,110,630)	500,680
Accrued expenses	73,799	62,575
Cash used in operating activities	(2,923,160)	(9,843,686)

Cash flows from investing activities:

Purchase of property and equipment	(80,067)	(4,000)
Purchases of marketable investment securities	(23,134,930)	(13,537,970)
Maturities of marketable investment securities	24,900,000	23,900,000
Net cash provided by investing activities	1,685,003	10,358,030

Cash flows from financing activities:

Net proceeds from sale of common stock through ATM	209,340	409,866
Cash provided by financing activities	209,340	409,866
Net increase (decrease) in cash and cash equivalents	(1,028,817)	924,210
Cash and cash equivalents at beginning of period	4,771,758	3,148,496
Cash and cash equivalents at end of period	3,742,941	4,072,706

Supplemental disclosure of cash flow information:

Income taxes paid	681	656
Supplemental disclosure of non-cash investing and financing activities:		
Net unrealized gain on available-for-sale securities	2,683	5,818
Issuance of Series B preferred stock		\$ 89

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Pay vs Performance Disclosure - USD (\$)	3 Months Ended		9 Months Ended	
	Sep. 30, 2024	Sep. 30, 2023	Sep. 30, 2024	Sep. 30, 2023

Pay vs Performance Disclosure [Table]

Net Income (Loss)	\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,829)
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Insider Trading Arrangements	3 Months Ended
	Sep. 30, 2024

Insider Trading Arrangements [Line Items]

Rule 10b5-1 Arrangement Adopted	false
Non-Rule 10b5-1 Arrangement Adopted	false
Rule 10b5-1 Arrangement Terminated	false
Non-Rule 10b5-1 Arrangement Terminated	false

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Basis of Presentation	9 Months Ended
	Sep. 30, 2024

Accounting Policies

[Abstract]

Basis of Presentation (1) Basis of Presentation

The accompanying unaudited condensed consolidated financial statements included herein have been prepared by Lipocine Inc. (“Lipocine” or the “Company”) in accordance with the rules and regulations of the United States Securities and Exchange Commission (“SEC”). The unaudited condensed consolidated financial statements are comprised of the financial statements of Lipocine and its subsidiaries, collectively referred to as the Company. In management’s opinion, the interim financial data presented includes all adjustments (consisting solely of normal recurring items) necessary for fair presentation. All intercompany accounts and transactions have been eliminated. Certain information required by U.S. generally accepted accounting principles (“U.S. GAAP”) has been condensed or omitted in accordance with rules and regulations of the SEC. Operating results for the three and nine months ended September 30, 2024 are not necessarily indicative of the results that may be expected for any future period or for the year ending December 31, 2024.

These unaudited condensed consolidated financial statements should be read in conjunction with the Company’s audited consolidated financial statements and the notes thereto for the year ended December 31, 2023.

The preparation of the unaudited condensed consolidated financial statements requires management to make estimates and assumptions relating to reporting of the assets and liabilities and the disclosure of contingent assets and liabilities to prepare these condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting period in conformity with U.S. GAAP. Actual results could differ from these estimates.

The Company believes that its existing capital resources, together with interest thereon, will be sufficient to meet its projected operating requirements through at least November 7, 2025. The Company has based this estimate on assumptions that may prove to be wrong, and the Company could utilize its available capital resources sooner than it currently expects. While the Company believes it has sufficient liquidity and capital resources to fund our projected operating requirements through at least November 7, 2025, the Company will need to raise additional capital through the equity or debt markets or via out-licensing activities to support its operations. If the Company is unsuccessful in raising additional capital, its long-term ability to continue as a going concern will become a risk. Further, the Company’s operating plan may change, and the Company may need additional funds to meet operational needs and capital requirements for product development, regulatory compliance and clinical trial activities sooner than planned. In addition, the Company’s capital resources may be consumed more rapidly if it pursues additional clinical studies for LPCN 1154, LPCN 2401, LPCN 2101, LPCN 2203, LPCN 1148, LPCN 1144, and/or LPCN 1107. Conversely, the Company’s capital resources could last longer if the Company reduces expenses, reduces the number of activities currently contemplated under its operating plan, or terminates, modifies the design of or suspends on-going clinical studies.

On January 12, 2024, the Company entered into a License Agreement (the “Verity License Agreement”) with Gordon Silver Limited (“GSL”) and Verity Pharmaceuticals, Inc. (“Verity Pharma”), pursuant to which the Company granted to GSL (an affiliate of Verity Pharma) an exclusive, royalty-bearing, sublicensable right and license to commercialize the TLANDO product with respect to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone, as indicated in a New Drug Application (“NDA”) No. 208088, treatment of Klinefelter syndrome, and pediatric indications relating to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone (the “Field”), in each case within the United States and Canada (the “Licensed Verity Territory”). The Verity License Agreement also provides GSL with a license to develop and commercialize TLANDO XR (LPCN 1111), the Company’s potential once-daily oral product candidate for testosterone replacement therapy in the Licensed Verity Territory. The Company retains development and commercialization rights for TLANDO and TLANDO XR (LPCN 1111) outside of the Licensed Verity Territory, and with respect to applications outside of the Field inside or outside the Licensed Verity Territory.

Upon execution of the Verity License Agreement, GSL agreed to pay the Company a license fee of \$11.0 million consisting of an initial payment of \$2.5 million which was received on signing of the Verity License Agreement, \$5.0 million which was received on February 1, 2024, \$2.5 million to be paid no later than January 1, 2025, and \$1.0 million to be paid no later than January 1, 2026. The Company is also eligible to receive development and sales milestone payments of up to \$259 million in the aggregate, depending primarily on the achievement of certain sales milestones in a single calendar year with respect to all products licensed by GSL under the Verity License Agreement. In addition, the Company is eligible to receive tiered royalty payments at rates ranging from 12% up to 18% of net sales of licensed products in the Licensed Verity Territory.

In accordance with the SPC and Pharmedlink License Agreements described under Note 13 (Subsequent Events), the Company entered into a license agreement in the territories of South Korea and Gulf Corporation Council, or GCC. The Company retains development and commercialization rights for TLANDO outside of the United States, Canada, South Korea, and the Gulf Corporation Council, or GCC and retains the development and commercialization rights for TLANDO XR (LPCN 1111) outside the United States and Canada, and with respect to applications outside of the Field inside or outside the Licensed Verity Territory.

On May 10, 2023, the Company’s Board approved a reverse stock split ratio of 1-for-17. The Company filed an Amendment to its Certificate of Incorporation with the Secretary of State of the State of Delaware on May 10, 2023, and the Amendment became effective at 5:00 p.m. Eastern Time on Thursday, May 11, 2023. The Company’s shares began trading on a split-adjusted basis on the Nasdaq

Capital Market commencing upon market open on May 12, 2023.

The accompanying consolidated financial statements and notes to consolidated financial statements give retroactive effect to the reverse stock split for all periods presented. The reverse stock split did not change the number of authorized shares of common stock or its par value.

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Revenue
Revenue from
Contract with
Customer [Abstract]
Revenue

9 Months Ended
Sep. 30, 2024

(2) Revenue

The Company generates most of its revenue from license and royalty arrangements. At inception of each contract, the Company identifies the goods and services that have been promised to the customer and each of those that represent a distinct performance obligation, determines the transaction price including any variable consideration, allocates the transaction price to the distinct performance obligations and determines whether control transfers to the customer at a point in time or over time. Variable consideration is included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. The Company reassesses its reserves for variable consideration at each reporting date and makes adjustments, if necessary, which may affect revenue and earnings in periods in which any such changes become known.

See Note 7 for a description of the Verity License Agreement. See Note 11 for a description of the agreement with Spriaso, a related party.

License Fees

For distinct license performance obligations, upfront license fees are recognized when the Company satisfies the underlying performance obligation. Performance obligations under these licenses, which consist of the right to use the Company's proprietary technology, are satisfied at a point in time corresponding with delivery of the underlying technology rights to the licensee, which is generally upon transfer of the licensed technology/product to the customer. In addition, license arrangements may include contingent milestone payments, which are due following achievement by our licensee of specified sales or regulatory milestones and the licensee and/or Company will fulfill its performance obligation prior to achievement of these milestones. Because of the uncertainty of the milestone achievement, and/or the dependence on sales of our licensee, variable consideration for contingent milestones is fully constrained and is not recognized as revenue until the milestone is achieved by our licensee, to the extent collectability is reasonably certain.

Royalties

Royalties revenue consists of sales-based and minimum royalties earned under license agreements for our products. Sales-based royalties revenue represents variable consideration under license agreements and is recognized in the period a customer sells products incorporating the Company's licensed technologies/products. The Company estimates sales-based royalties revenue earned but unpaid at each reporting period using information provided by the licensee. The Company's license arrangements may also provide for minimum royalties, which the Company recognizes upon the satisfaction of the underlying performance obligation, which generally occurs with delivery of the underlying technology rights to the licensee. Sales-based and minimum royalties are generally due within 45 days after the end of each quarter in which they are earned.

Revenue Concentration

A major partner is considered to be one that comprises more than 10% of the Company's total revenues. For the three months ended September 30, 2024, the Company did not recognize any royalty revenue relating to the Verity License Agreement. For the nine months ended September 30, 2024, the Company recognized licensing revenue of \$7.5 million relating to the Verity License Agreement and royalty revenue of approximately \$140,000 relating to the Verity License Agreement. The revenue recognized in 2024 was 99% from one major customer, Verity Pharma. For the three and nine months ended September 30, 2023, the Company recognized a reversal of revenue relating of variable consideration of the Antares License Agreement of approximately \$3.1 million due to the termination of the License Agreement. In addition, the Company recognized license revenue of \$55,000 in the nine months ended September 30, 2023, which was 100% from a related-party, Spriaso.

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Loss per Share
Earnings Per Share
[Abstract]
Loss per Share

9 Months Ended
Sep. 30, 2024

(3) Loss per Share

Basic earnings (loss) per share is calculated by dividing net income (loss) available to common shareholders by the weighted average number of common shares outstanding during the period. Diluted earnings (loss) per share is based on the weighted average number of common shares outstanding plus, where applicable, the additional potential common shares that would have been outstanding related to dilutive options, warrants and unvested restricted stock units to the extent such shares are dilutive.

The following table sets forth the computation of basic and diluted earnings (loss) per share of common stock for the three and nine months ended September 30, 2024 and 2023:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2024	2023	2024	2023
Basic loss per share attributable to common stock:				
Numerator				
Net loss	\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,829)
Denominator				
Weighted avg. common shares outstanding	5,347,940	5,292,058	5,335,941	5,254,116
Basic earnings loss per share attributable to common stock	\$ (0.41)	\$ (1.26)	\$ (0.33)	\$ (2.68)
Diluted loss per share attributable to common stock:				
Numerator				
Net loss	\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,829)
Effect of dilutive securities on net loss:				
Common stock warrants	138,081	74,827	13,580	200,416
Total net loss for purpose of calculating diluted loss per common share	\$ (2,356,899)	\$ (6,725,797)	\$ (1,787,411)	\$ (14,270,245)
Denominator				
Weighted avg. common shares outstanding	5,347,940	5,292,058	5,335,941	5,254,116
Weighted average effect of dilutive securities:				
Stock options	-	-	-	-
Restricted stock units	-	-	-	-
Total shares for purpose of calculating diluted net loss per common share	5,347,940	5,292,058	5,335,941	5,254,116
Diluted loss per share attributable to common stock	\$ (0.44)	\$ (1.27)	\$ (0.33)	\$ (2.72)

The computation of diluted loss per share for the three and nine months ended September 30, 2024 and 2023 does not include the following stock options and warrants to purchase shares of common stock or unvested restricted stock units in the computation of diluted loss per share because these instruments were antidilutive:

	For the Three and Nine Months Ended September 30,	
	2024	2023
Stock options	286,484	264,069
Unvested restricted stock units	21,762	-
Warrants	49,333	49,433

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Marketable
Investment Securities
Investments, Debt
and Equity Securities
[Abstract]
Marketable Investment
Securities

9 Months Ended
Sep. 30, 2024

(4) Marketable Investment Securities

The Company has classified its marketable investment securities as available-for-sale securities, all of which are debt securities. These securities are carried at fair value with unrealized holding gains and losses, net of the related tax effect, included in accumulated other comprehensive income (loss) in stockholders' equity until realized. Gains and losses on investment security transactions are reported on the specific-identification method. Dividend income is recognized on the ex-dividend date and interest income is recognized on an accrual basis. The amortized cost, gross unrealized holding gains, gross unrealized holding losses, and fair value for available-for-sale securities by major security type and class of security as of September 30, 2024, and December 31, 2023, were as follows:

September 30, 2024	Amortized Cost	Gross unrealized holding gains	Gross unrealized holding losses	Aggregate fair value
Government treasury bills	\$ 16,070,749	\$ 9,942	\$ -	\$ 16,080,691
	\$ 16,070,749	\$ 9,942	\$ -	\$ 16,080,691
December 31, 2023	Amortized Cost	Gross unrealized holding gains	Gross unrealized holding losses	Aggregate fair value
Government treasury bills	\$ 14,272,530	\$ 8,574	\$ -	\$ 14,281,104

U.S. government agency securities	2,983,999	-	(1,315)	2,982,684
	<u>\$ 17,256,529</u>	<u>\$ 8,574</u>	<u>\$ (1,315)</u>	<u>\$ 17,263,788</u>

Maturities of debt securities classified as available-for-sale securities as of September 30, 2024 are as follows:

	September 30, 2024	Amortized Cost	Aggregate fair value
Due within one year		\$ 16,070,749	\$ 16,080,691

There were no sales of marketable investment securities during either the three or nine months ended September 30, 2024 and 2023 and therefore no realized gains or losses. Additionally, during the three months ended September 30, 2024 and 2023, \$6.7 million and \$6.0 million of marketable investment securities matured, and during the nine months ended September 30, 2024 and 2023, \$24.9 million and \$23.9 million of marketable securities matured, respectively. The Company determined there were no other-than-temporary impairments for either the three or nine months ended September 30, 2024 and 2023.

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Fair Value	9 Months Ended Sep. 30, 2024
Fair Value Disclosures [Abstract] Fair Value	
(5) Fair Value	

The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. The Company determines fair value based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

- Level 1 Inputs: Quoted prices for identical instruments in active markets.
- Level 2 Inputs: Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-derived valuation in which all significant inputs and significant value drivers are observable in active markets.
- Level 3 Inputs: Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are unobservable.

All of the Company's financial instruments are valued using quoted prices in active markets or based on other observable inputs. For accrued interest income, prepaid and other current assets, accounts payable, and accrued expenses, the carrying amounts approximate fair value because of the short maturity of these instruments. The following table presents the placement in the fair value hierarchy of assets and liabilities that are measured at fair value on a recurring basis as of September 30, 2024 and December 31, 2023:

	September 30, 2024	Fair value measurements at reporting date using		
		Level 1 inputs	Level 2 inputs	Level 3 inputs
Assets:				
Cash equivalents - money market funds	\$ 3,742,941	\$ 3,742,941	\$ -	\$ -
Government treasury bills	<u>16,080,691</u>	<u>16,080,691</u>	<u>-</u>	<u>-</u>
	<u>\$ 19,823,632</u>	<u>\$ 19,823,632</u>	<u>\$ -</u>	<u>\$ -</u>
Liabilities:				
Warrant liability	\$ 3,586	\$ -	\$ -	\$ 3,586
	<u>\$ 19,827,218</u>	<u>\$ 19,823,632</u>	<u>\$ -</u>	<u>\$ 3,586</u>
	December 31, 2023	Fair value measurements at reporting date using		
		Level 1 inputs	Level 2 inputs	Level 3 inputs
Assets:				
Cash equivalents - money market funds	\$ 4,695,491	\$ 4,695,491	\$ -	\$ -
Government treasury bills	<u>14,281,104</u>	<u>14,281,104</u>	<u>-</u>	<u>-</u>
U.S. government agency securities	2,982,684	-	2,982,684	-
	<u>\$ 21,959,279</u>	<u>\$ 18,976,595</u>	<u>\$ 2,982,684</u>	<u>\$ -</u>
Liabilities:				
Warrant liability	\$ 17,166	\$ -	\$ -	\$ 17,166
	<u>\$ 21,976,445</u>	<u>\$ 18,976,595</u>	<u>\$ 2,982,684</u>	<u>\$ 17,166</u>

The following methods and assumptions were used to determine the fair value of each class of assets and liabilities recorded at fair value in the balance sheets:

Cash equivalents: Cash equivalents primarily consist of highly rated money market funds and treasury bills with original maturities to the Company of three months or less and are purchased daily at par value with specified yield rates. Cash equivalents related to money market funds and treasury bills are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices or broker or dealer quotations for similar assets.

Government treasury bills: The Company uses a third-party pricing service to value these investments. United States treasury bills are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets for identical assets and reportable trades.

U.S. government agency securities: The Company uses a third-party pricing service to value these investments. U.S. government agency securities are classified within Level 2 of the fair value hierarchy because they are valued using broker/dealer quotes, bids and offers, benchmark yields and credit spreads and other observable inputs.

Warrant liability: The warrant liability (which relates to warrants to purchase shares of common stock) is marked-to-market each reporting period with the change in fair value recorded to other income (expense) in the accompanying statements of operations until the warrants are exercised, expire or other facts and circumstances lead the warrant liability to be reclassified to stockholders' equity. The fair value of the warrant liability is estimated using a Black-Scholes option-pricing model. The significant assumptions used in preparing the option pricing model for valuing the warrant liability as of September 30, 2024, include (i) volatility of 107.82%, (ii) risk free interest rate of 4.87%, (iii) strike price of \$8.50, (iv) fair value of common stock of \$4.49, and (v) with the warrants expiring on November 17, 2024, expected life of 0.1 years. The significant assumptions used in preparing the option pricing model for valuing the warrant liability as of December 31, 2023, include (i) volatility of 100%, (ii) risk free interest rate of 4.79%, (iii) strike price of \$8.50, (iv) fair value of common stock of \$2.79, and (v) expected life of 0.9 years.

The Company's accounting policy is to recognize transfers between levels of the fair value hierarchy on the date of the event or changes in circumstances that caused the transfer. There were no transfers into or out of Level 1, Level 2, or Level 3 for the three or nine months ended September 30, 2024.

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Income Taxes	9 Months Ended Sep. 30, 2024
Income Tax Disclosure [Abstract] Income Taxes	
(6) Income Taxes	

The tax provision for interim periods is determined using an estimate of the Company's effective tax rate for the full year adjusted for discrete items, if any, that are taken into account in the relevant period. Each quarter the Company updates its estimate of the annual effective tax rate, and if the estimated tax rate changes, the Company makes a cumulative adjustment.

At September 30, 2024 and December 31, 2023, the Company had a full valuation allowance against its deferred tax assets, net of expected reversals of existing deferred tax liabilities, as it believes it is more likely than not that these benefits will not be realized.

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Contractual Agreements	9 Months Ended Sep. 30, 2024
Health Care Organizations [Abstract] Contractual Agreements	
(7) Contractual Agreements	

(a) Verity Pharmaceuticals, Inc.

On January 12, 2024, the Company entered into the Verity License Agreement with GSL and Verity Pharma, pursuant to which the Company granted to GSL (an affiliate of Verity Pharma) an exclusive, royalty-bearing, sublicensable right and license to commercialize the Company's TLANDO product with respect to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone, as indicated in NDA No. 209088, treatment of Klinefelter syndrome, and pediatric indications relating to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone (the "Field"), in each case within the United States and Canada (the "Licensed Verity Territory"). The Verity License Agreement also provides GSL with a license to develop and commercialize TLANDO XR (LPCN 1111), the Company's potential once-daily oral product candidate for testosterone replacement therapy in the Licensed Verity Territory. Under the Verity License Agreement, the Company retains rights to TLANDO in applications outside of the Field and to the development and commercialization rights outside of the United States and Canada. The Company retains rights to TLANDO XR in applications outside of the Field and to development and commercialization rights in the field outside of the United States and Canada.

Upon execution of the Verity License Agreement, GSL agreed to pay the Company a license fee of \$11.0 million consisting of an initial payment of \$2.5 million which was received on signing of the Verity License Agreement, \$5.0 million which was received on February 1, 2024, \$2.5 million to be paid no later than January 1, 2025, and \$1.0 million to be paid no later than January 1, 2026. The Company is also eligible to receive development and sales milestone payments of up to \$259.0 million in the aggregate, depending primarily on the achievement of certain sales milestones in a single calendar year with respect to all products licensed by GSL under the Verity License Agreement. Under the Verity License Agreement, GSL is generally responsible for expenses relating to the development (including the conduct of any clinical trials) and commercialization of licensed products in the Field in the Licensed Verity Territory, while the Company is generally responsible for

expenses relating to development activities outside of the Field and/or the Licensed Verity Territory.

The Company concluded that licensing revenue recognized in conjunction with the Verity License Agreement met the requirements under ASC 606, Revenue from Contracts with Customers. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. License revenue from payments to be received in the future will be recognized when it is probable that we will receive license payments under the terms of the Verity License Agreement.

Under the Verity License Agreement with Verity Pharma, during the three months ended September 30, 2024, the Company did not recognize any royalty revenue. During the nine months ended September 30, 2024, the Company recognized \$7.5 million in licensing revenue and approximately \$140,000 in royalty revenue.

(b) Antares Pharma, Inc.

On October 14, 2021, the Company entered into the Antares License Agreement with Antares pursuant to which the Company granted to Antares an exclusive, royalty-bearing, sublicensable right and license to develop and commercialize, upon final approval of TLANDO® from the U.S. Food and Drug Administration (“FDA”), the Company’s TLANDO product with respect to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone, as indicated in NDA No. 208088, treatment of Klinefelter syndrome, and pediatric indications relating to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone, in each case within the United States. TLANDO received FDA approval on March 29, 2022.

Upon execution of the Antares License Agreement, Antares paid the Company an initial payment of \$11.0 million. Antares agreed to make additional payments of \$5.0 million to the Company on each of January 1, 2025, and January 1, 2026, provided that certain conditions were satisfied. The Company was also eligible to receive milestone payments of up to \$160.0 million in the aggregate, depending on the achievement of certain sales milestones in a single calendar year with respect to TLANDO, as licensed by Antares under the Antares License Agreement. In addition, the Company was to receive tiered royalty payments at rates ranging from percentages in the mid-teens up to 20% of net sales of TLANDO in the United States, subject to certain minimum royalty obligations. On October 2, 2023, the Company received notice from Antares of Antares’ termination of the Antares License Agreement. In accordance with the terms of the Antares License Agreement, the Antares License Agreement terminated effective January 31, 2024. On January 12, 2024, the Company entered into the Verity License Agreement with Verity Pharma. Upon termination of the Antares License Agreement, all rights and licenses granted by the Company to Antares under the Antares License Agreement terminated and all rights in TLANDO were transferred to the Company’s new licensing partner, Verity Pharma.

Under the Antares License Agreement, the Company did not recognize revenue during the three months ended September 30, 2024 and recognized a reversal of variable consideration for minimum guaranteed royalties of \$3.1 million during the three months ended September 30, 2023. Under the Antares License Agreement, the Company recognized revenue of approximately \$67,000 during the nine months ended September 30, 2024 and recognized a reversal of variable consideration for minimum guaranteed royalties of \$3.1 million during the nine months ended September 30, 2023. The Company does not expect to receive any further royalties under the Antares License Agreement in the future.

(c) Abbott Products, Inc.

On March 29, 2012, the Company terminated its collaborative agreement with Solvay Pharmaceuticals, Inc. (later acquired by Abbott Products, Inc. (“Abbott”) for TLANDO. As part of the termination, the Company reacquired the rights to the intellectual property from Abbott. All obligations under the prior license agreement have been completed except that Lipocine will owe Abbott a perpetual 1% royalty on net sales. Such royalties are limited to \$1.0 million in the first two calendar years following product launch, after which period there is not a cap on royalties and no maximum aggregate amount. If generic versions of any such product are introduced, then royalties are reduced by 50%. TLANDO was commercially launched on June 7, 2022. The Company incurred royalty expense of approximately \$0 and \$9,000 during the three months ended September 30, 2024 and 2023, respectively, and approximately \$16,000 and \$22,000 during the nine months ended September 30, 2024 and 2023, respectively.

(d) Contract Research and Development

The Company has entered into agreements with various contract organizations that conduct pre-clinical, clinical, analytical and manufacturing development work on behalf of the Company as well as a number of independent contractors and primarily clinical researchers who serve as advisors to the Company. The Company incurred expenses of \$740,000 and \$2.1 million, respectively, for the three months ended September 30, 2024 and 2023, respectively, and \$3.7 million and \$5.9 million for the nine months ended September 30, 2024 and 2023, respectively, under these agreements and has recorded these expenses in research and development expenses.

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Leases

[Leases](#)
[Leases](#)

(8) Leases

The Company has a non-cancelable operating lease for office space and laboratory facilities in Salt Lake City, Utah. The term of the lease has been extended through February 28, 2025.

Future minimum lease payments under the non-cancelable operating lease as of September 30, 2024 are:

	Operating leases
Year ending December 31:	
2024	\$ 92,019
2025	61,346
Total minimum lease payments	<u>\$ 153,365</u>

The Company’s rent expense was \$92,000 and \$89,000 for the three months ended September 30, 2024 and 2023, respectively. The Company’s rent expense was \$274,000 and \$266,000, for the nine months ended September 30, 2024, respectively.

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Stockholders’ Equity

[Equity \[Abstract\]](#)
[Stockholders’ Equity](#)

(9) Stockholders’ Equity

On May 10, 2023, the Company’s Board approved a reverse stock split ratio of 1-for-17. The Company filed the Amendment to its Certificate of Incorporation with the Secretary of State of the State of Delaware on May 10, 2023, and the Amendment became effective at 5:00 p.m. Eastern Time on Thursday, May 11, 2023. The Company’s shares began trading on a split-adjusted basis on the Nasdaq Capital Market commencing upon market open on May 12, 2023.

All common stock share data and per share price data of the Company reflect the reverse stock split effective May 11, 2023.

The Company is authorized to issue up to 200,000,000 shares of its common stock, par value \$0.0001.

(a) Issuance of Common Stock

On April 26, 2024, the Company entered into a sales agreement with A.G.P. (the “A.G.P. Sales Agreement”) pursuant to which the Company may issue and sell, from time to time, shares of its common stock having an aggregate offering price of up to the amount the Company registered on an effective registration statement pursuant to which the offering is being made. The Company currently has registered \$10,616,169 shares of common shares for sale under the Sales Agreement, pursuant to the Registration Statement on Form S-3, as amended (File No. 333-275716) (the “Form S-3”), through A.G.P. as the Company’s sales agent. A.G.P. may sell the Company’s common stock by any method permitted by law deemed to be an “at the market offering” as defined in Rule 415(a)(4) of the Securities Act, including sales made directly on or through the Nasdaq Capital Market or any other existing trade market for our common stock, in negotiated transactions at market prices prevailing at the time of sale or at prices related to prevailing market prices, or any other method permitted by law. A.G.P. will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell shares under the A.G.P. Sales Agreement. The Company will pay A.G.P. 3.0% of the aggregate gross proceeds from each sale of shares under the A.G.P. Sales Agreement. In addition, the Company has also provided A.G.P. with customary indemnification rights.

The shares of the Company’s common stock to be sold under the A.G.P. Sales Agreement will be sold and issued pursuant to the Form S-3, as amended, which was previously declared effective by the Securities and Exchange Commission, and the related prospectus and one or more prospectus supplements.

The Company is not obligated to make any sales of its common stock under the A.G.P. Sales Agreement. The offering of common stock pursuant to the A.G.P. Sales Agreement will terminate upon the termination of the A.G.P. Sales Agreement as permitted therein. The Company and A.G.P. may each terminate the A.G.P. Sales Agreement at any time upon ten days’ prior notice.

As of September 30, 2024, the Company had not sold any shares under the A.G.P. Sales Agreement.

Previously, on March 6, 2017, the Company entered into a sales agreement (the “Cantor Sales Agreement”) with Cantor Fitzgerald & Co. (“Cantor”) pursuant to which the Company could issue and sell, from time to time, shares of its common stock having an aggregate offering price of up to the amount the Company registered on an effective registration statement pursuant to which the offering was made.

As of September 30, 2024, the Company had sold an aggregate of 996,821 shares at a weighted-average sales price of \$33.62 per share under the At the Market Offering (the “ATM Offering”) Cantor Sales Agreement, for aggregate gross proceeds of \$33.5 million and net proceeds of \$32.4 million, after deducting sales agent commission and discounts and other offering costs. During the three and nine months ended September 30, 2024, the Company sold 0 and 32,110 shares of its common stock pursuant to the Cantor Sales Agreement. On April 24, 2024 the Cantor Sales Agreement was terminated.

(b) Series B Preferred Stock

On March 7, 2023, the Board of the Company declared a dividend of one one-thousandth (1/1,000th) of a share of Series B Preferred Stock, par value \$0.0001 per share (“Series B Preferred Stock”), for each outstanding share of common stock of the Company, to stockholders of record on March 24, 2023. The Certificate of Designation of Series B Preferred Stock (the “Certificate of Designation”) was filed with the Delaware Secretary of State and became effective on March 10, 2023.

The dividend was based on the number of shares of outstanding common stock on March 24, 2023, and resulted in 88,511 Series B Preferred shares being issued. Each whole share of Series B Preferred Stock entitled the holder thereof to 1,000,000 votes per share, and each fraction of a share of Series B Preferred Stock had a ratable number of votes. Thus, each one-thousandth of a share of Series B Preferred Stock was entitled to 1,000 votes. The outstanding shares of Series B Preferred Stock were entitled to vote together with the outstanding shares of common stock as a single class exclusively with respect to any proposal to adopt an amendment to the Company’s Amended and Restated Certificate of Incorporation, as amended (the “Certificate of Incorporation”), to effect a reverse stock split of the outstanding shares of Common Stock at a ratio determined in accordance with the terms of such amendment (the “Reverse Stock Split”), and (ii) any proposal to adjourn any meeting of stockholders called for the purpose of voting on the Reverse Stock Split (the “Adjournment Proposal”) in conjunction with the Company’s 2023 annual meeting of stockholders.

All shares of Series B Preferred Stock that were not present in person or by proxy at the 2023 annual meeting as of immediately prior to the opening of the polls (the “Initial Redemption Time”) were automatically redeemed by the Company without further action on the part of the Company or the holder of shares of Series B Preferred Stock (the “Initial Redemption”). The remaining shares of Series B Preferred Stock that were not redeemed pursuant to the Initial Redemption were redeemed automatically upon the effectiveness of the amendment to the Certificate of Incorporation implementing the Reverse Stock Split (the “Subsequent Redemption”).

Each “beneficial owner” (as such terms are defined in the Certificate of Designation with respect to the Series B Preferred Stock) of shares of Series B Preferred Stock redeemed in the redemptions described above has the right to receive an amount equal to \$0.01 in cash for each ten whole shares of Series B Preferred Stock that were “beneficially owned” by the beneficial owner as of immediately prior to the applicable redemption time and redeemed pursuant to such redemption, payable upon receipt by the Company of a written request submitted by the applicable beneficial owner to the corporate secretary of the Company following the applicable redemption time.

The Series B Preferred Stock was not convertible into, or exchangeable for, shares of any other class or series of stock or other securities of the Company. The Series B Preferred Stock had no stated maturity and was not subject to any sinking fund. The Series B Preferred Stock was not subject to any restriction on the redemption or repurchase of shares by the Company while there is any arrearage in the payment of dividends or sinking fund installments.

The Company was not solely in control of the redemption of the shares of Series B Preferred Stock prior to the annual meeting of stockholders since the holders had the option of deciding whether to vote in respect of the above-described Reverse Stock Split, which determined whether a given holder’s shares of Series B Preferred Stock was redeemed in the Initial Redemption or the Subsequent Redemption. Since the redemption of the Series B Preferred Stock was not solely in the control of the Company, the shares of Series B Preferred Stock were classified within the mezzanine equity in the Company’s unaudited consolidated statement of stockholder’s equity. Upon issuance, the shares of Series B Preferred Stock were measured at redemption value. As of May 10, 2023, all shares of Series B Preferred Stock had been redeemed by the Company.

(c) Rights Agreement

On November 13, 2015, the Company and American Stock Transfer & Trust Company, LLC, as Rights Agent, entered into a Rights Agreement. Also on November 12, 2015, the Board of the Company authorized and the Company declared a dividend of one preferred stock purchase right (each a “Right” and collectively, the “Rights”) for each outstanding share of common stock of the Company. The dividend was payable to stockholders of record as of the close of business on November 30, 2015 and entitles the registered holder to purchase from the Company one one-thousandth of a fully paid non-assessable share of Series A Junior Participating Preferred Stock of the Company at a price of \$63.96 per one-thousandth share (the “Purchase Price”). The Rights will generally become exercisable upon the earlier to occur of (i) 10 business days following a public announcement that a person or group of affiliated or associated persons has become an Acquiring Person (as defined below) or (ii) 10 business days (or such later date as may be determined by action of the Board prior to such time as any person or group of affiliated or associated persons becomes an Acquiring Person) following the commencement of, or announcement of an intention to make, a tender offer or exchange offer the consummation of which would result in the beneficial ownership by a person or group of 15% or more of the outstanding common stock of the Company. Except in certain situations, a person or group of affiliated or associated persons becomes an “Acquiring Person” upon acquiring beneficial ownership of 15% or more of the outstanding shares of common stock of the Company.

In general, in the event a person becomes an Acquiring Person, then each Right not owned by such Acquiring Person will entitle its holder to purchase from the Company, at the Right’s then current exercise price, in lieu of shares of Series A Junior Participating Preferred Stock, common stock of the Company with a market value of twice the Purchase Price. In addition, if after any person has become an Acquiring Person, (a) the Company is acquired in a merger or other business combination, or (b) 50% or more of the Company’s assets, or assets accounting for 50% or more of its earning power, are sold, leased, exchanged or otherwise transferred (in one or more transactions), proper provision shall be made so that each holder of a Right (other than the Acquiring Person, its affiliates and associates and certain transferees thereof, whose Rights became void) shall thereafter have the right to purchase from the acquiring corporation, for the Purchase Price, that number of shares of common stock of the acquiring corporation which at the time of such transaction would have a market value of twice the Purchase Price.

The Company will be entitled to redeem the Rights at \$0.001 per Right at any time prior to the time an Acquiring Person becomes such. The terms of the Rights are set forth in the Rights Agreement, which is summarized in the Company’s Current Report on Form 8-K dated November 13, 2015. The rights plan was originally set to expire on November 12, 2018; however, on November 5, 2018 our Board approved an Amended and Restated Rights Agreement pursuant to which the expiration date was extended to November 5, 2021, and again on November 2, 2021, the Company adopted a Second Amended and Restated Rights Agreement pursuant to which the expiration date was extended to November 1, 2024. On October 22, 2024, the Company adopted a Third Amended and Restated Rights Agreement pursuant to which the expiration date was extended to October 22, 2027, unless the rights are earlier redeemed or exchanged by the Company.

(d) Share-Based Payments

The Company recognizes stock-based compensation expense for grants of stock option awards, restricted stock units and restricted stock under the Company’s Incentive Plan to employees, nonemployees and nonemployee members of the Company’s Board based on the grant-date fair value of those awards. The grant-date fair value of an award is generally recognized as compensation expense over the award’s requisite service period. In addition, the Company has granted performance-based stock option awards and restricted stock units, which vest based upon the Company satisfying certain performance conditions. Potential compensation cost, measured on the grant date, related to these performance options will be recognized only if, and when, the Company estimates that these options or units will vest, which is based on whether the Company considers the performance conditions to be probable of attainment. The Company’s estimates of the number of performance-based options or units that will vest will be revised, if necessary, in subsequent periods.

The Company uses the Black-Scholes model to compute the estimated fair value of stock option awards. Using this model, fair value is calculated based on assumptions with respect to (i) expected volatility of the Company’s common stock price, (ii) the periods of time over which employees and members of the board of directors are expected to hold their options prior to exercise (expected term), (iii) expected dividend yield on the Common Stock, and (iv) risk-free interest rates. Stock-based compensation expense also includes an estimate, which is made at the time of grant, of the number of awards that are expected to be forfeited. This estimate is revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Stock-based compensation cost that has been expensed in the statements of operations amounted to approximately \$108,000 and \$158,000, respectively, for the three months ended September 30, 2024 and 2023, and approximately \$309,000 and \$501,000, respectively, for the nine months ended September 30, 2024 and 2023, and is allocated as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2024	2023	2024	2023
Research and development	\$ 58,168	\$ 92,034	\$ 171,033	\$ 270,776
General and administrative	49,726	66,056	138,432	229,951
	<u>\$ 107,894</u>	<u>\$ 158,090</u>	<u>\$ 309,465</u>	<u>\$ 500,727</u>

The Company issued 0 stock options, during each of the three months ended September 30, 2024 and 2023, and issued 34,446 and 26,467 stock options, respectively, during the nine months ended September 30, 2024 and 2023.

Key assumptions used in the determination of the fair value of stock options granted are as follows:

Expected Term: The expected term represents the period that the stock-based awards are expected to be outstanding. The expected term was estimated using the average of the contractual term and the vesting period of the stock option. For awards with performance conditions, and that have the contractual term to satisfy the performance condition, the contractual term was used.

Risk-Free Interest Rate: The risk-free interest rate used was based on the implied yield currently available on U.S. Treasury issues with an equivalent remaining term.

Expected Dividend: The expected dividend assumption is based on management’s current expectation about the Company’s anticipated dividend policy. The Company does not anticipate declaring dividends in the foreseeable future.

Expected Volatility: The volatility factor is based solely on the Company’s trading history.

For options granted during the nine months ended September 30, 2024 and 2023, the Company calculated the fair value of each option grant on the respective dates of grant using the following weighted average assumptions:

	2024	2023
Expected term	5.76 years	5.73 years
Risk-free interest rate	4.32%	3.73%
Expected dividend yield	-	-
Expected volatility	97.78%	98.97%

The Company recognizes compensation expense for the portion of options that are expected to vest. Therefore, the Company applied estimated forfeiture rates that were derived from historical employee termination behavior. If the actual number of forfeitures differs from those estimated by management, additional adjustments to compensation expense may be required in future periods.

As of September 30, 2024, there was approximately \$278,000 of total unrecognized compensation cost related to unvested stock option compensation granted under the Company’s stock option plan. That cost is expected to be recognized over a weighted average period of 0.7 years and will be adjusted for subsequent changes in estimated forfeitures. Additionally, as of September 30, 2024, there was \$74,000 of total unrecognized compensation costs related to unvested restricted stock units that have either time-based or performance vesting.

(e) Stock Option Plan

In April 2014, the Board adopted the 2014 Stock and Incentive Plan (“2014 Plan”) subject to shareholder approval which was received in June 2014. The 2014 Plan provides for the granting of nonqualified and incentive stock options, stock appreciation rights, restricted stock units, restricted stock and dividend equivalents. An aggregate of 58,823 shares were authorized for issuance under the 2014 Plan. Additionally, 15,994 remaining authorized shares under the 2011 Equity Incentive Plan (“2011 Plan”) were issuable under the 2014 Plan at the time of the 2014 Plan adoption. Upon receiving shareholder approval in June 2016, the 2014 Plan was amended and restated to increase the authorized number of shares of common stock of the Company issuable under all awards granted under the 2014 Plan from 74,817 to 145,405. Additionally, upon receiving shareholder approval in June 2018, the 2014 Plan was further amended and restated to increase the authorized number of shares of common stock of the Company issuable under all awards granted under the 2014 Plan from 145,405 to 189,522. Upon receiving shareholder approval in June 2020, the 2014 Plan was further amended and restated to increase the authorized number of shares of common stock of the Company issuable under all awards granted under the 2014 Plan from 189,522 to 336,582. In June 2024, the 2014 Plan was further amended and restated to increase the authorized number of shares of common stock of the Company issuable under all awards granted from 336,582 to 600,000. The Board, on an option-by-option basis, determines the number of shares, exercise price, term, and vesting period for options granted. Options granted generally have a ten-year contractual life. The Company issues shares of common stock upon the exercise of options with the source of those shares of common stock being either newly issued shares or shares held in treasury. An aggregate of 600,000 shares of common stock are authorized for issuance under the 2014 Plan, with 266,079 shares remaining available for grant as of September 30, 2024.

A summary of stock option activity is as follows:

	Outstanding stock options	
	Number of shares	Weighted average exercise price
Balance at December 31, 2023	262,247	\$ 34.21
Options granted	34,446	4.77
Options exercised	-	-
Options forfeited	-	-
Options cancelled	(10,209)	142.99
Balance at September 30, 2024	<u>286,484</u>	<u>26.79</u>
Options exercisable at September 30, 2024	224,430	32.33

The following table summarizes information about stock options outstanding and exercisable at September 30, 2024:

Options outstanding			Options exercisable		
Weighted average remaining	Weighted average	Aggregate	Weighted average remaining	Weighted average	Aggregate

Number outstanding	contractual life (Years)	exercise price	intrinsic value	Number exerciseable	contractual life (Years)	exercise price	intrinsic value
286,484	6.50	\$ 26.79	\$ 13,069	224,430	5.85	\$ 32.33	\$ -

The intrinsic value for stock options is defined as the difference between the current market value and the exercise price. There were 0 stock options exercised during either the three or nine months ended September 30, 2024 or 2023.

(f) Restricted Stock Units

A summary of restricted stock unit activity is as follows:

	Number of Unvested Restricted Stock Units
Balance at December 31, 2023	-
Granted	21,762
Vested	-
Cancelled	-
Balance at September 30, 2024	21,762

There were no restricted stock units awarded during either the three months ended September 30, 2024 or 2023. There were 21,762 and 0 restricted stock units awarded during the nine months ended September 30, 2024 and 2023, respectively. The weighted average grant date fair value of restricted stock units awarded during the nine months ended September 30, 2024 was \$3.61 per share.

(g) Common Stock Warrants

The Company accounts for its common stock warrants under ASC 480, *Distinguishing Liabilities from Equity*, which requires any financial instrument, other than an outstanding share, that, at inception, embodies an obligation to repurchase the issuer's equity shares, or is indexed to such an obligation, and requires or may require the issuer to settle the obligation by transferring assets, to be classified as a liability. In accordance with ASC 480, the Company's outstanding warrants from the November 2019 Offering are classified as a liability. The liability is adjusted to fair value at each reporting period, with the changes in fair value recognized as gain (loss) on change in fair value of warrant liability in the Company's consolidated statements of operations. The warrants issued in the November 2019 Offering allow the warrant holder, if certain change in control events occur, the option to receive an amount of cash equal to the value of the warrants as determined in accordance with the Black-Scholes option pricing model with certain defined assumptions upon a fundamental transaction.

As of September 30, 2024, the Company had 64,362 common stock warrants outstanding from the November 2019 Offering to purchase an equal number of shares of common stock. The fair value of these warrants on September 30, 2024 and on December 31, 2023 was determined using the Black-Scholes option pricing model with the following Level 3 inputs (as defined in the November 2019 Offering):

	September 30, 2024	December 31, 2023
Expected life in years	0.13	0.88
Risk-free interest rate	4.87%	4.79%
Dividend yield	—	—
Volatility	107.82%	100.00%
Stock price	\$ 4.49	\$ 2.79

During the three and nine months ended September 30, 2024, the Company recorded non-cash gains of approximately \$138,000 and \$13,600, respectively, from the change in fair value of the November 2019 Offering warrants. During the three and nine months ended September 30, 2023, the Company recorded non-cash gains of approximately \$75,000 and \$200,000, respectively, from the change in fair value on the November 2019 Offering warrants. The following table is a reconciliation of the warrant liability measured at fair value using level 3 inputs:

	Warrant Liability
Balance at December 31, 2023	\$ 17,166
Change in fair value of common stock warrants	(13,580)
Balance at September 30, 2024	\$ 3,586

Additionally, in an offering in February 2020, the Company issued 296,593 common stock warrants. However, because these warrants do not provide the warrant holder the option to put the warrant back to the Company, the warrants are classified as equity. As of September 30, 2024, and 2023, there were 49,433 warrants outstanding that were issued in February 2020.

The following table summarizes the number of common stock warrants outstanding and the weighted average exercise price:

	Warrants	Weighted Average Exercise Price
Outstanding at December 31, 2023	113,795	\$ 8.72
Issued	-	-
Exercised	-	-
Expired	-	-
Cancelled	-	-
Forfeited	-	-
Balance at September 30, 2024	113,795	\$ 8.72

There were no common stock warrants exercised during either the three or nine months ended September 30, 2024 or 2023.

The following table summarizes information about common stock warrants outstanding at September 30, 2024:

	Warrants outstanding			
	Weighted average remaining contractual life (Years)	Weighted average exercise price	Aggregate intrinsic value	
Number exercisable				
113,795	0.25	\$ 8.72	\$ -	

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Commitments and Contingencies

[Commitments and Contingencies Disclosure \[Abstract\]](#)
[Commitments and Contingencies](#)

(10) Commitments and Contingencies

Litigation

The Company is involved in various lawsuits, claims and other legal matters from time to time that arise in the ordinary course of conducting business. The Company records a liability when a particular contingency is probable and estimable.

On November 14, 2019, the Company and certain of its officers were named as defendants in a purported shareholder class action lawsuit, Solomon Abady v. Lipocine Inc. et al., 2:19-cv-00906-PMW, filed in the United District Court for the District of Utah. The complaint alleges that the defendants made false and/or misleading statements and/or failed to disclose that the Company's filing of the NDA for TLANDO to the FDA contained deficiencies and as a result the defendants' statements about our business and operations were false and misleading and/or lacked a reasonable basis in violation of federal securities laws. The lawsuit sought certification as a class action (for a purported class of purchasers of the Company's securities from March 27, 2019 through November 8, 2019), compensatory damages in an unspecified amount, and unspecified equitable or injunctive relief. The Company has insurance that covers claims of this nature. The retention amount payable by the Company under its policy is \$1.25 million. The Company filed a motion to dismiss the class action lawsuit on July 24, 2020. In response, the plaintiffs filed their response to the motion to dismiss the class action lawsuit on September 22, 2020 and the Company filed its reply to its motion to dismiss on October 22, 2020. A hearing on the motion to dismiss occurred on January 12, 2022. On April 14, 2023, a judgment was issued ordering the case dismissed with prejudice and closure of the action.

The Company is not currently aware of any matter, individually or in the aggregate, that could have a material adverse effect on our financial condition, liquidity, or results of operations.

Guarantees and Indemnifications

In the ordinary course of business, the Company enters into agreements, such as lease agreements, licensing agreements, clinical trial agreements, and certain services agreements, containing standard guarantee and / or indemnification provisions. Additionally, the Company has indemnified its directors and officers to the maximum extent permitted under the laws of the State of Delaware.

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Agreement with Spriaso, LLC

[Related Party Transactions \[Abstract\]](#)
[Agreement with Spriaso, LLC](#)

(11) Agreement with Spriaso, LLC

The Company has a license and a services agreement with Spriaso, a related-party that is majority-owned by certain current and former directors of Lipocine Inc. and their affiliates. Under the license agreement, the Company assigned and transferred to Spriaso all of the Company's rights, title and interest in its intellectual property to develop products for the cough and cold field. In addition, Spriaso received all rights and obligations under the Company's product development agreement with a third-party. In exchange, the Company will receive a royalty of 20 percent of the net proceeds received by Spriaso, up to a maximum of \$10.0 million. Spriaso also granted back to the Company an exclusive license to such intellectual property to develop products outside of the cough and cold field. The Company also agreed to continue providing up to 10 percent of the services of certain employees to Spriaso for a period of time. The agreement to provide services expired in 2021; however, it may be extended upon written agreement of Spriaso and the Company. During the three and nine months ended September 30, 2024, the Company did not receive any revenue from Spriaso. During the three and nine months ended September 30,2023, the Company received licensing revenue from Spriaso of \$0 and approximately \$55,000, respectively. Spriaso filed its first NDA

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Recent Accounting Pronouncements
Accounting Changes and Error Corrections [Abstract]
Recent Accounting Pronouncements

(12) Recent Accounting Pronouncements

Accounting Pronouncements Issued Not Yet Adopted

In November 2023, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures, which enhances reporting requirements under Topic 280. The enhanced disclosure requirements include: title and position of the Chief Operating Decision Maker (the “CODM”), significant segment expenses provided to the CODM, extending certain annual disclosures to interim periods, clarifying single reportable segment entities must apply ASC 280 in its entirety, and permitting more than one measure of segment profit or loss to be reported under certain circumstances. This change is effective for fiscal years beginning after December 15, 2023 and interim periods beginning after December 15, 2024. This change will apply retrospectively to all periods presented. Management is currently assessing the impact of the adoption of this ASU on the financials statements of the Company.

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Subsequent Events
Subsequent Events [Abstract]
Subsequent Events

(13) Subsequent Events

In September 2024, the Company entered into a Distribution and License Agreement (the “SPC License Agreement”) with SPC Korea Limited (“SPC”), pursuant to which the Company granted to SPC a non-transferable, exclusive, royalty-bearing license to commercialize the Company’s TLANDO® product with respect to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone, as indicated in a New Drug Application (“NDA”) No. 208088, treatment of Klinefelter syndrome, and pediatric indications relating to testosterone replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone (the “Field”), specific to the country of South Korea (the “SPC Territory”).

SPC paid the Company a one-time non-refundable, non-creditable upfront fee in October 2024. The Company is eligible to receive additional payments including a non-refundable, non-creditable prepayment in consideration for TLANDO product inventory, marketing authorization and sales milestones, and the Company will supply TLANDO to SPC and receive a supply price. In addition, the Company will receive royalties on net sales in the SPC Territory.

In October 2024, the Company entered into a distribution and supply agreement (the “Pharmalink License Agreement”) with Pharmalink, pursuant to which the Company granted to Pharmalink a non-transferable, exclusive, license to commercialize the Company’s TLANDO® product with respect to the Field, specific to the Gulf Cooperation Council (GCC), including Saudi Arabia, Kuwait, the United Arab Emirates (UAE), Qatar, Bahrain, and Oman (the “GCC Territory”).

Pharmalink paid the Company a one-time non-refundable, non-creditable upfront fee. The Company is eligible to receive additional payments in regulatory authorization milestones related to the GCC under the Pharmalink License Agreement and the Company will supply TLANDO to Pharmalink at an agreed transfer price.

On October 22, 2024, the Company adopted a Third Amended and Restated Stockholder Rights Agreement in order to extend the expiration date of the stockholder rights plan until October 22, 2027. Other than extending the expiration date of the Rights Agreement, no material changes have been made to the prior stockholder rights plan. See Footnote 9(c) Stockholder’s Equity, Rights Agreement.

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Loss per Share (Tables)
Earnings Per Share [Abstract]
Schedule of Computation of Basic and Diluted Earnings (Loss) Per Share of Common Stock

9 Months Ended
Sep. 30, 2024

9 Months Ended
Sep. 30, 2024

The following table sets forth the computation of basic and diluted earnings (loss) per share of common stock for the three and nine months ended September 30, 2024 and 2023:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2024	2023	2024	2023
Basic loss per share attributable to common stock:				
Numerator				
Net loss	\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,829)
Denominator				
Weighted avg. common shares outstanding	5,347,940	5,292,058	5,335,941	5,254,116
Basic earnings loss per share attributable to common stock	\$ (0.41)	\$ (1.26)	\$ (0.33)	\$ (2.68)
Diluted loss per share attributable to common stock:				
Numerator				
Net loss	\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,829)
Effect of dilutive securities on net loss:				
Common stock warrants	138,081	74,827	13,580	200,416
Total net loss for purpose of calculating diluted loss per common share	\$ (2,356,899)	\$ (6,725,797)	\$ (1,787,411)	\$ (14,270,245)
Denominator				
Weighted avg. common shares outstanding	5,347,940	5,292,058	5,335,941	5,254,116
Weighted average effect of dilutive securities:				
Stock options	-	-	-	-
Restricted stock units	-	-	-	-
Total shares for purpose of calculating diluted net loss per common share	5,347,940	5,292,058	5,335,941	5,254,116
Diluted loss per share attributable to common stock	\$ (0.44)	\$ (1.27)	\$ (0.33)	\$ (2.72)

The computation of diluted loss per share for the three and nine months ended September 30, 2024 and 2023 does not include the following stock options and warrants to purchase shares of common stock or unvested restricted stock units in the computation of diluted loss per share because these instruments were antidilutive:

For the Three and Nine Months Ended September 30,			
	2024	2023	
Stock options	286,484	264,069	
Unvested restricted stock units	21,762	-	
Warrants	49,333	49,433	

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Marketable Investment Securities (Tables)
Investments, Debt and Equity Securities [Abstract]
Schedule of Available for Sale Securities

9 Months Ended
Sep. 30, 2024

September 30, 2024	Amortized Cost	Gross unrealized holding gains	Gross unrealized holding losses	Aggregate fair value
Government treasury bills	\$ 16,070,749	\$ 9,942	\$ -	\$ 16,080,691
	\$ 16,070,749	\$ 9,942	\$ -	\$ 16,080,691
December 31, 2023	Amortized Cost	Gross unrealized holding gains	Gross unrealized holding losses	Aggregate fair value
Government treasury bills	\$ 14,272,530	\$ 8,574	\$ -	\$ 14,281,104
U.S. government agency securities	2,983,999	-	(1,315)	2,982,684
	\$ 17,256,529	\$ 8,574	\$ (1,315)	\$ 17,263,788

Maturities of debt securities classified as available-for-sale securities as of September 30, 2024 are as follows:

September 30, 2024	Amortized Cost	Aggregate fair value
Due within one year	\$ 16,070,749	\$ 16,080,691

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Fair Value (Tables)
Fair Value Disclosures [Abstract]
Schedule of Fair Value, Assets and Liabilities Measured on Recurring Basis

9 Months Ended
Sep. 30, 2024

Fair value measurements at reporting date using

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Leases (Tables)

Leases

Schedule of Future Minimum Rental Payments for Operating Leases

Future minimum lease payments under the non-cancelable operating lease as of September 30, 2024 are:

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Stockholders' Equity (Tables)

Equity [Abstract]

Schedule of Employee Service Share-based Compensation, Allocation of Recognized Period Costs

For options granted during the nine months ended September 30, 2024 and 2023, the Company calculated the fair value of each option grant on the respective dates of grant using the following weighted average assumptions:

Schedule of Key Assumption of Fair Value of Stock Options Granted

A summary of stock option activity is as follows:

Schedule of Stock Option Activity

The following table summarizes information about stock options outstanding and exercisable at September 30, 2024:

Schedule of Share-based Compensation of Stock Options Outstanding and Exercisable

Summary of Restricted Stock Unit Activity

A summary of restricted stock unit activity is as follows:

Schedule of Fair Value of Warrants

Schedule of Reconciliation of Warrant Liability

Schedule of Number of Warrants Outstanding and the Weighted Average Exercise Price

The following table summarizes the number of common stock warrants outstanding and the weighted average exercise price:

Schedule of Common Stock Warrants Outstanding

The following table summarizes information about common stock warrants outstanding at September 30, 2024:

	Warrants outstanding		
	Weighted average remaining contractual life (Years)	Weighted average exercise price	Aggregate intrinsic value
Number exercisable			

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Basis of Presentation (Details Narrative) - USD (\$) \$ in Millions	Jan. 01, 2026 Jan. 01, 2025 Feb. 01, 2024 Jan. 12, 2024				May 10, 2023
Reverse stock split					reverse stock split ratio of 1-for-17
License Agreement [Member] Gordon Silver Limited [Member]					
License fee			\$ 5.0	\$ 11.0	
Initial payment				2.5	
Milestone payment				\$ 259.0	
License Agreement [Member] Gordon Silver Limited [Member] Minimum [Member]					
Royalty payments percentage				12.00%	
License Agreement [Member] Gordon Silver Limited [Member] Maximum [Member]					
Royalty payments percentage				18.00%	
License Agreement [Member] Gordon Silver Limited [Member] Forecast [Member]					
License fee	\$ 1.0	\$ 2.5			

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Revenue (Details Narrative) - USD (\$)	3 Months Ended		9 Months Ended	
	Sep. 30, 2024	Sep. 30, 2023	Sep. 30, 2024	Sep. 30, 2023
Disaggregation of Revenue [Line Items]				
Royalty recognised			\$ 140,000	
Licensing revenue			7,500,000	
Revenues		\$ (3,121,996)	\$ 7,706,738	\$ (3,067,006)
Spriaso [Member]				
Disaggregation of Revenue [Line Items]				
Revenues		\$ (3,100,000)		(3,100,000)
Spriaso [Member] License [Member]				
Disaggregation of Revenue [Line Items]				
Revenues				\$ 55,000
Verity License Agreement [Member]				
Disaggregation of Revenue [Line Items]				
Royalty recognised		\$ 0		
Major Customer [Member] Revenue Benchmark [Member] Customer Concentration Risk [Member]				
Disaggregation of Revenue [Line Items]				
Concentration risk, percentage			10.00%	
One Major Customer [Member] Revenue Benchmark [Member] Customer Concentration Risk [Member]				
Disaggregation of Revenue [Line Items]				
Concentration risk, percentage			99.00%	100.00%

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Schedule of Computation of Basic and Diluted Earnings (Loss) Per Share of Common Stock (Details) - USD (\$)	3 Months Ended		9 Months Ended	
	Sep. 30, 2024	Sep. 30, 2023	Sep. 30, 2024	Sep. 30, 2023
Share-Based Compensation Arrangement by Share-Based Payment Award [Line Items]				
Net loss	\$ (2,218,818)	\$ (6,650,970)	\$ (1,773,831)	\$ (14,069,829)
Weighted avg. common shares outstanding	5,347,940	5,292,058	5,335,941	5,254,116
Basic earnings loss per share attributable to common stock	\$ (0.41)	\$ (1.26)	\$ (0.33)	\$ (2.68)
Effect of dilutive securities on net loss:				
Common stock warrants	\$ 138,081	\$ 74,827	\$ 13,580	\$ 200,416
Total net loss for purpose of calculating diluted loss per common share	\$ (2,356,899)	\$ (6,725,797)	\$ (1,787,411)	\$ (14,270,245)
Weighted average effect of dilutive securities:				
Total shares for purpose of calculating diluted net loss per common share	5,347,940	5,292,058	5,335,941	5,254,116
Diluted loss per share attributable to common stock	\$ (0.44)	\$ (1.27)	\$ (0.33)	\$ (2.72)

Stock Options [Member]
Weighted average effect of dilutive securities:
Dilutive securities
Restricted Stock Units (RSUs) [Member]
Weighted average effect of dilutive securities:
Dilutive securities

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Schedule of Anti-dilutive Securities Excluded from Computation of Earnings Per Share (Details) - shares	3 Months Ended		9 Months Ended	
	Sep. 30, 2024	Sep. 30, 2023	Sep. 30, 2024	Sep. 30, 2023
Warrant [Member]				
Option Indexed to Issuer's Equity [Line Items]				
Antidilutive securities excluded from computation of earnings per share, amount	49,333	49,433	49,333	49,433
Restricted Stock Units (RSUs) [Member]				
Option Indexed to Issuer's Equity [Line Items]				
Antidilutive securities excluded from computation of earnings per share, amount	21,762		21,762	
Share-Based Payment Arrangement, Option [Member]				
Option Indexed to Issuer's Equity [Line Items]				
Antidilutive securities excluded from computation of earnings per share, amount	286,484	264,069	286,484	264,069

XML 43 R31.htm IDEA: XBRL DOCUMENT

Schedule of Available for Sale Securities (Details) - USD (\$)	Sep. 30, 2024 Dec. 31, 2023	
Marketable Securities [Line Items]		
Amortized Cost	\$ 16,070,749	\$ 17,256,529
Gross unrealized holding gains	9,942	8,574
Gross unrealized holding losses		(1,315)
Aggregate fair value	16,080,691	17,263,788
US Treasury Securities [Member]		
Marketable Securities [Line Items]		
Amortized Cost	16,070,749	14,272,530
Gross unrealized holding gains	9,942	8,574
Gross unrealized holding losses		
Aggregate fair value	\$ 16,080,691	14,281,104
U.S. Government Agency Securities [Member]		
Marketable Securities [Line Items]		
Amortized Cost		2,983,999
Gross unrealized holding gains		
Gross unrealized holding losses		(1,315)
Aggregate fair value		\$ 2,982,684

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Schedule of
Maturities of Debt
Securities Classified
as Available-for-Sale
Securities (Details)

Sep. 30, 2024
USD (\$)

Investments, Debt and Equity Securities [Abstract]

Due within one year, Amortized Cost	\$ 16,070,749
Due within one year, Aggregate fair value	\$ 16,080,691

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Marketable Investment Securities (Details Narrative) - USD (\$)	3 Months Ended Sep. 30, 2024	3 Months Ended Sep. 30, 2023	9 Months Ended Sep. 30, 2024	9 Months Ended Sep. 30, 2023
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Investments, Debt and Equity Securities [Abstract]

Sales of marketable investment securities	\$ 0	\$ 0	\$ 0	\$ 0
Realized gains or losses	0	0	0	0
Matured marketable investment securities	6,700,000	6,000,000.0	24,900,000	23,900,000
Other-than-temporary impairments	\$ 0	\$ 0	\$ 0	\$ 0

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Schedule of Fair Value, Assets and Liabilities Measured on Recurring Basis (Details) - USD (\$)	Sep. 30, 2024	Dec. 31, 2023
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Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets	\$ 19,823,632	\$ 21,959,279
Fair value of assets and liabilities	19,827,218	21,976,445

Warrant [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Liabilities	3,586	17,166
-------------	-------	--------

US Government Corporations and Agencies Securities [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets		2,982,684
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Fair Value, Inputs, Level 1 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets	19,823,632	18,976,595
Fair value of assets and liabilities	19,823,632	18,976,595

Fair Value, Inputs, Level 1 [Member] | Warrant [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Liabilities		
-------------	--	--

Fair Value, Inputs, Level 1 [Member] | US Government Corporations and Agencies Securities [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets		2,982,684
--------	--	-----------

Fair Value, Inputs, Level 2 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets		2,982,684
Fair value of assets and liabilities		2,982,684

Fair Value, Inputs, Level 2 [Member] | Warrant [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Liabilities		
-------------	--	--

Fair Value, Inputs, Level 2 [Member] | US Government Corporations and Agencies Securities [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets		2,982,684
--------	--	-----------

Fair Value, Inputs, Level 3 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets	3,586	17,166
Fair value of assets and liabilities		

Fair Value, Inputs, Level 3 [Member] | Warrant [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Liabilities	3,586	17,166
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Fair Value, Inputs, Level 3 [Member] | US Government Corporations and Agencies Securities [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets		
--------	--	--

Money Market Funds [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets	3,742,941	4,695,491
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Money Market Funds [Member] | Fair Value, Inputs, Level 1 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets	3,742,941	4,695,491
--------	-----------	-----------

Money Market Funds [Member] | Fair Value, Inputs, Level 2 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets		
--------	--	--

Money Market Funds [Member] | Fair Value, Inputs, Level 3 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets	16,080,691	14,281,104
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US Treasury Securities [Member] | Fair Value, Inputs, Level 1 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets	16,080,691	14,281,104
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US Treasury Securities [Member] | Fair Value, Inputs, Level 2 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets		
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US Treasury Securities [Member] | Fair Value, Inputs, Level 3 [Member]

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]

Assets		
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Fair Value (Details Narrative) - Warrant [Member] - \$ / shares	9 Months Ended Sep. 30, 2024	12 Months Ended Dec. 31, 2023
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Volatility, rate	107.82%	100.00%
Risk-free interest rate	4.87%	4.79%
Strike price	\$ 8.50	\$ 8.50
Fair value of common stock	\$ 4.49	\$ 2.79
Warrants expiring date	Nov. 17, 2024	
Expected life	1 month 6 days	10 months 24 days

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Contractual	3 Months Ended	9 Months Ended
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Agreements (Details Narrative) - USD (\$)	Jan. 01, 2026	Jan. 01, 2025	Feb. 01, 2024	Jan. 12, 2024	Oct. 14, 2021	Mar. 29, 2012	Sep. 30, 2024	Sep. 30, 2023	Sep. 30, 2024	Sep. 30, 2023
Royalty recognised									\$ 140,000	
Licensing revenue									7,500,000	
Minimum guaranteed royalties revenue								\$		\$
								3,121,996		3,121,996
Contract research and development expenses							740,000	2,100,000	3,700,000	5,900,000
Verity License Agreement [Member]										
Royalty recognised							0			
Verity License Agreement [Member] Gordon Silver Limited [Member]										
License fee			\$ 5,000,000.0	\$ 11,000,000.0						
Payments to be made for license fees				2,500,000						
Milestone payment				\$ 259,000,000.0						
Verity License Agreement [Member] Gordon Silver Limited [Member]										
Forecast [Member]										
License fee	\$ 1,000,000.0	\$ 2,500,000								
Antares License Agreement [Member]										
License fee					\$ 11,000,000.0					
Royalty payments rates					20.00%					
Minimum guaranteed royalties revenue							3,100,000		3,100,000	
Revenue									67,000	
Antares License Agreement [Member] Maximum [Member]										
Milestone revenue to be received					\$ 160,000,000.0					
Antares License Agreement [Member] Forecast [Member]										
Payments to be made for license fees	\$ 5,000,000.0	\$ 5,000,000.0								
Royalty Agreement Terms [Member] Abbott Products, Inc. [Member]										
Percentage of net sales						1.00%				
Royalties, commitment amount						\$ 1,000,000.0				
Percentage of royalties reduction based upon product launch						50.00%				
Royalty expense							\$ 0	\$ 9,000	\$ 16,000	\$ 22,000

XML 49 R37.htm IDEA: XBRL DOCUMENT

Schedule of Future Minimum Rental Payments for Operating Leases (Details)	Sep. 30, 2024 USD (\$)
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Leases	
2024	\$ 92,019
2025	61,346
Total minimum lease payments	\$ 153,365

XML 50 R38.htm IDEA: XBRL DOCUMENT

Leases (Details Narrative) - USD (\$)	3 Months Ended Sep. 30, 2024	3 Months Ended Sep. 30, 2023	9 Months Ended Sep. 30, 2024	9 Months Ended Sep. 30, 2023
Leases				
Rent expense	\$ 92,000	\$ 89,000	\$ 274,000	\$ 266,000

XML 51 R39.htm IDEA: XBRL DOCUMENT

Schedule of Employee Service Share-based Compensation, Allocation of Recognized Period Costs (Details) - USD (\$)	3 Months Ended Sep. 30, 2024	3 Months Ended Sep. 30, 2023	9 Months Ended Sep. 30, 2024	9 Months Ended Sep. 30, 2023
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Total	\$ 107,894	\$ 158,090	\$ 309,465	\$ 500,727
Research and Development Expense [Member]				
Total	58,168	92,034	171,033	270,776
General and Administrative Expense [Member]				
Total	\$ 49,726	\$ 66,056	\$ 138,432	\$ 229,951

XML 52 R40.htm IDEA: XBRL DOCUMENT

Schedule of Key Assumption of Fair Value of Stock Options Granted (Details) - Options [Member]	9 Months Ended Sep. 30, 2024	9 Months Ended Sep. 30, 2023
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Debt Securities, Held-to-Maturity, Allowance for Credit Loss [Line Items]

Expected term	5 years 9 months 3 days	5 years 8 months 23 days
Risk-free interest rate	4.32%	3.73%
Expected dividend yield		
Expected volatility	97.78%	98.97%

XML 53 R41.htm IDEA: XBRL DOCUMENT

Schedule of Stock Option Activity (Details) - \$ / shares	3 Months Ended Sep. 30, 2024	3 Months Ended Sep. 30, 2023	9 Months Ended Sep. 30, 2024	9 Months Ended Sep. 30, 2023
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Option Indexed to Issuer's Equity [Line Items]

Number of shares, ending balance	286,484		286,484	
Weighted average exercise price, ending balance	\$ 26.79		\$ 26.79	
Number of shares, options exercisable	224,430		224,430	
Weighted average exercise price, options exercisable	\$ 32.33		\$ 32.33	

Share-Based Payment Arrangement, Option [Member]

Option Indexed to Issuer's Equity [Line Items]

Number of shares, beginning balance			262,247	
Weighted average exercise price, beginning balance			\$ 34.21	
Number of shares, Options granted	0	0	34,446	26,467
Weighted average exercise price, Options granted			\$ 4.77	
Number of shares, Options exercised				
Weighted average exercise price, Options exercised				
Number of shares, Options forfeited				
Weighted average exercise price, Options forfeited				
Number of shares, Options cancelled			(10,209)	
Weighted average exercise price, Options cancelled			\$ 142.99	
Number of shares, ending balance	286,484		286,484	
Weighted average exercise price, ending balance	\$ 26.79		\$ 26.79	
Number of shares, options exercisable	224,430		224,430	
Weighted average exercise price, options exercisable	\$ 32.33		\$ 32.33	

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Schedule of Share-based Compensation of Stock Options Outstanding and Exercisable (Details)				9 Months Ended	
				Sep. 30, 2024	USD (\$)
				\$ / shares	
Equity [Abstract]					
Number of options outstanding shares				286,484	
Options outstanding, Weighted average remaining contractual life (Years)				6 years 6 months	
Options outstanding, Weighted average exercise price \$ / shares				\$ 26.79	
Options outstanding, Aggregate intrinsic value \$				\$ 13,069	
Number of options exercisable shares				224,430	
Options exercisable, Weighted average remaining contractual life (Years)				5 years 10 months 6 days	
Options exercisable, Weighted average exercise price \$ / shares				\$ 32.33	
Options exercisable, Aggregate intrinsic value \$					
XML 55 R43.htm IDEA: XBRL DOCUMENT					
Summary of Restricted Stock Unit Activity (Details)				9 Months Ended	
				Sep. 30, 2024	shares
Share-Based Compensation Arrangement by Share-Based Payment Award [Line Items]					
Number of shares, ending balance				286,484	
Restricted Stock Units (RSUs) [Member]					
Share-Based Compensation Arrangement by Share-Based Payment Award [Line Items]					
Number of shares, beginning balance					
Number of shares, Options granted				21,762	
Number of shares, Options vested					
Number of shares, Options cancelled					
Number of shares, ending balance				21,762	
XML 56 R44.htm IDEA: XBRL DOCUMENT					
Schedule of Fair Value of Warrants (Details) - Warrant [Member] - \$ / shares				9 Months Ended 12 Months Ended	
				Sep. 30, 2024	Dec. 31, 2023
Class of Warrant or Right [Line Items]					
Expected life in years				1 month 6 days	10 months 24 days
Risk-free interest rate				4.87%	4.79%
Volatility				107.82%	100.00%
Stock price				\$ 4.49	\$ 2.79
November 2019 Offering [Member] Fair Value, Inputs, Level 3 [Member]					
Class of Warrant or Right [Line Items]					
Expected life in years				1 month 17 days	10 months 17 days
Risk-free interest rate				4.87%	4.79%
Dividend yield					
Volatility				107.82%	100.00%
Stock price				\$ 4.49	\$ 2.79
XML 57 R45.htm IDEA: XBRL DOCUMENT					
Schedule of Reconciliation of Warrant Liability (Details) - USD (\$)				9 Months Ended	
				Sep. 30, 2024	Sep. 30, 2023
Equity [Abstract]					
Balance at December 31, 2023				\$ 17,166	
Change in fair value of common stock warrants				(13,580)	\$ (200,416)
Balance at September 30, 2024				\$ 3,586	
XML 58 R46.htm IDEA: XBRL DOCUMENT					
Schedule of Number of Warrants Outstanding and the Weighted Average Exercise Price (Details) - Warrant [Member]				9 Months Ended	
				Sep. 30, 2024	\$ / shares
Share-Based Compensation Arrangement by Share-Based Payment Award [Line Items]					
Warrants Outstanding, Beginning shares				113,795	
Weighted Average Exercise Price, Outstanding, Beginning \$ / shares				\$ 8.72	
Warrants, Issued shares					
Weighted Average Exercise Price, Issued \$ / shares					
Warrants, Exercised shares					
Weighted Average Exercise Price, Exercised \$ / shares					
Warrants, Expired shares					
Weighted Average Exercise Price, Expired \$ / shares					
Warrants, Cancelled shares					
Weighted Average Exercise Price, Cancelled \$ / shares					
Warrants, Forfeited shares					
Weighted Average Exercise Price, Forfeited \$ / shares					
Warrants Outstanding, Ending shares				113,795	
Weighted Average Exercise Price, Outstanding, Ending \$ / shares				\$ 8.72	
XML 59 R47.htm IDEA: XBRL DOCUMENT					
Schedule of Common Stock Warrants Outstanding (Details) - Warrant [Member] - USD (\$)				9 Months Ended	
				Sep. 30, 2024	Dec. 31, 2023
Accumulated Other Comprehensive Income (Loss) [Line Items]					
Number of warrants exercisable, shares				113,795	113,795
Warrants outstanding, Weighted average remaining contractual life				3 months	
Warrants outstanding, Weighted average exercise price				\$ 8.72	\$ 8.72
Warrants outstanding, Aggregate intrinsic value					
XML 60 R48.htm IDEA: XBRL DOCUMENT					
Stockholders' Equity (Details Narrative) - USD (\$)				3 Months Ended	9 Months Ended
Apr. 26, 2024	May 10, 2023	Mar. 24, 2023	Sep. 30, 2024	Sep. 30, 2023	Sep. 30, 2024
					Sep. 30, 2023
					Jun. 30, 2024
					Dec. 31, 2023
					Mar. 07, 2023
					Jun. 30, 2020
					Jun. 30, 2018
					Jun. 30, 2016
					Nov. 13, 2015
					Apr. 30, 2014
Class of Stock [Line Items]					
Reverse stock split, description				reverse stock split ratio of 1-for-17	
Common stock, shares authorized				200,000,000	200,000,000
Common stock, par					200,000,000

value	\$ 0.0001		\$ 0.0001		\$ 0.0001
Fair value of shares issued during the period		\$ 421,082	\$ 209,340		\$ 409,866
Net proceeds from common stock offering			\$ 209,340		409,866
Preferred stock redemption price	\$ 0.001		\$ 0.001		\$ 63.96
Stock-based compensation expense	\$ 107,894	158,090	\$ 309,465		500,727
Unrecognized compensation cost	\$ 278,000		\$ 278,000		
Share based payment arrangement, nonvested award, cost not yet recognized, period for recognition			8 months 12 days		
Non-cash loss on change in fair value of warrant liability			\$ (13,580)		(200,416)
November 2019 Offering [Member]					
Class of Stock [Line Items]					
Warrants outstanding	64,362		64,362		
Non-cash loss on change in fair value of warrant liability	\$ 138,000	\$ 75,000	\$ 13,600		\$ 200,000
February 2020 Offering [Member]					
Class of Stock [Line Items]					
Warrants outstanding	49,433	49,433	49,433		49,433
Issued			296,593		296,593
Exercised	0	0	0		0
Restricted Stock [Member]					
Class of Stock [Line Items]					
Unrecognized compensation cost of restricted stock units			\$ 74,000		
Restricted stock units	\$ 0	\$ 0	\$ 21,762		\$ 0
Weighted average grant date fair value of restricted stock units			\$ 3.61		
Stock Incentive Plan 2014 [Member]					
Class of Stock [Line Items]					
Aggregate number of shares authorized for issuance	600,000		600,000		58,823
Shares remaining available for grant	266,079		266,079		
Options granted contractual life			10 years		
Stock Incentive Plan 2014 [Member] Minimum [Member]					
Class of Stock [Line Items]					
Aggregate number of shares authorized for issuance				336,582	189,522 145,405 74,817
Stock Incentive Plan 2014 [Member] Maximum [Member]					
Class of Stock [Line Items]					
Aggregate number of shares authorized for issuance				600,000	336,582 189,522 145,405
2011 Equity Incentive Plan [Member]					
Class of Stock [Line Items]					
Shares remaining available for grant					15,994
Share-Based Payment Arrangement, Option [Member]					
Class of Stock [Line Items]					
Number of shares, Options granted (in shares)	0	0	34,446		26,467
Option exercises, shares					
Series B Preferred Stock [Member]					
Class of Stock [Line Items]					
Preferred stock, stated par value				\$ 0.0001	
Preferred stock, shares issued	88,511				
Preferred stock voting rights, description	Each whole share of Series B Preferred Stock entitled the holder thereof to 1,000,000 votes per share, and each fraction of a share of Series B Preferred Stock had a ratable number of votes. Thus, each one-thousandth of a				

share of Series B Preferred Stock was entitled to 1,000 votes.

Preferred stock redemption terms

Each “beneficial owner” (as such terms are defined in the Certificate of Designation with respect to the Series B Preferred Stock) of shares of Series B Preferred Stock redeemed in the redemptions described above has the right to receive an amount equal to \$0.01 in cash for each ten whole shares of Series B Preferred Stock that were “beneficially owned” by the beneficial owner as of immediately prior to the applicable redemption time and redeemed pursuant to such redemption, payable upon receipt by the Company of a written request submitted by the applicable beneficial owner to the corporate secretary of the Company following the applicable redemption time.

Sales Agreement [Member]

Class of Stock [Line Items]

Percentage of gross proceeds on sale of shares 3.00%

Shares issued, price per share

\$ 33.62 \$ 33.62

Sales Agreement [Member] | A.G.P [Member]

Class of Stock [Line Items]

Fair value of shares issued during the period \$ 10,616,169

Cantor Sales Agreement [Member]

Class of Stock [Line Items]

Stock issued during period, shares, new issues

996,821

Proceeds from issuance of common stock, gross

\$ 33,500,000

Net proceeds from common stock offering

\$ 32,400,000

Number of shares issued

0 32,110

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Commitments and Contingencies (Details Narrative) \$ in Thousands

Nov. 14, 2019 USD (\$)

Commitments and Contingencies Disclosure [Abstract]

Payments for legal settlements

\$ 1,250

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Agreement with Spriaso, LLC (Details Narrative) - Spriaso LLC [Member] - USD (\$)

3 Months Ended

Sep. 30, 2024 Sep. 30, 2023

9 Months Ended

Sep. 30, 2024

Sep. 30, 2023

License and Service Agreement [Member]

Collaborative Arrangement and Arrangement Other than Collaborative [Line Items]

Percentage of royalty

20.00%

Proceeds from contributions from affiliates

\$ 10,000,000.0

Agreement description

The Company also agreed to continue providing up to 10 percent of the services of certain employees to Spriaso for a period of time. The agreement to provide services expired in 2021

Service Agreement [Member]

Collaborative Arrangement and Arrangement Other than Collaborative [Line Items]

Licensing revenue

\$ 0 \$ 0 \$ 0

\$ 55,000

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Business description describes the nature and type of organization including but not limited to organizational structure as may be applicable to holding companies, parent and subsidiary relationships, business divisions, business units, business segments, affiliates and information about significant ownership of the reporting entity. Basis of presentation describes the underlying basis used to prepare the financial statements (for example, US Generally Accepted Accounting Principles. 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These concepts are used to disclose reportable information associated with domain members defined in one or many axes to the table.", "auth ref": "r377", "us-gaap-CommitmentsAndContingencies", "xbrlType": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommitmentsAndContingencies", "credit", "calculation", "http://lipocine.com/role/BalanceSheets", "parentTag": "us-gaap-LiabilitiesAndStockholdersEquity", "weight": 1.0, "order": 2.0, "presentation": "http://lipocine.com/role/BalanceSheets", "lang": "en-us", "role": "label", "Commitments and contingencies (notes 7, 8, 9, and 10)", "documentation": "Represents the caption on the face of the balance sheet to indicate that the entity has entered into (1) purchase or supply arrangements that will require expending a portion of its resources to meet the terms thereof, and (2) is exposed to potential losses or less frequently, gains, arising from (a) possible claims against a company's resources due to future performance under contract terms, and (b) possible losses or likely gains from uncertainties that will ultimately be resolved when one or more future events that are deemed likely to occur do occur or fail to occur.", "auth ref": "r56", "r97", "r488", "r556", "us-gaap-CommitmentsAndContingenciesDisclosureAbstract", "xbrlType": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommitmentsAndContingenciesDisclosureAbstract", "lang": "en-us", "role": "label", "Commitments and Contingencies Disclosure Abstract", "auth ref": "us-gaap-CommitmentsAndContingenciesDisclosureTextBlock", "xbrlType": "textBlockItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommitmentsAndContingenciesDisclosureTextBlock", "presentation": "http://lipocine.com/role/CommitmentsAndContingencies", "lang": "en-us", "role": "label", "Commitments and Contingencies", "documentation": "The entire disclosure for commitments and contingencies.", "auth ref": "r80", "r261", "r262", "r622", "r827", "r829", "us-gaap-CommonStockMember", "xbrlType": "domainItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommonStockMember", "presentation": "http://lipocine.com/role/StatementsOfChangesInStockholdersEquity", "lang": "en-us", "role": "label", "Common Stock Member", "documentation": "Stock that is subordinate to all other stock of the issuer.", "auth ref": "r672", "r673", "r674", "r676", "r677", "r678", "r679", "r796", "r797", "r800", "r840", "r893", "r895", "us-gaap-CommonStockParOrStatedValuePerShare", "xbrlType": "perShareItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommonStockParOrStatedValuePerShare", "presentation": "http://lipocine.com/role/BalanceSheetsParenthetical", "http://lipocine.com/role/StockholdersEquityDetailsNarrative", "lang": "en-us", "role": "label", "Common stock, par value", "documentation": "Face amount or stated value per share of common stock.", "auth ref": "r60", "us-gaap-CommonStockSharesAuthorized", "xbrlType": "sharesItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommonStockSharesAuthorized", "presentation": "http://lipocine.com/role/BalanceSheetsParenthetical", "http://lipocine.com/role/StockholdersEquityDetailsNarrative", "lang": "en-us", "role": "label", "Common stock, shares authorized", "documentation": "The maximum number of common shares permitted to be issued by an entity's charter and bylaws.", "auth ref": "r60", "r557", "us-gaap-CommonStockSharesIssued", "xbrlType": "sharesItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommonStockSharesIssued", "presentation": "http://lipocine.com/role/BalanceSheetsParenthetical", "lang": "en-us", "role": "label", "Common stock, shares issued", "documentation": "Total number of common shares of an entity that have been sold or granted to shareholders (includes common shares that were issued, repurchased and remain in the treasury). These shares represent capital invested by the firm's shareholders and owners, and may be all or only a portion of the number of shares authorized. Shares issued include shares outstanding and shares held in the treasury.", "auth ref": "r60", "us-gaap-CommonStockSharesOutstanding", "xbrlType": "sharesItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommonStockSharesOutstanding", "presentation": "http://lipocine.com/role/BalanceSheetsParenthetical", "lang": "en-us", "role": "label", "Common stock, shares outstanding", "documentation": "Number of shares of common stock outstanding. Common stock represent the ownership interest in a corporation.", "auth ref": "r10", "r60", "r557", "r575", "r895", "r896", "us-gaap-CommonStockValue", "xbrlType": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CommonStockValue", "credit", "calculation", "http://lipocine.com/role/BalanceSheets", "parentTag": "us-gaap-StockholdersEquity", "weight": 1.0, "order": 1.0, "presentation": "http://lipocine.com/role/BalanceSheets", "lang": "en-us", "role": "label", "Common stock, par value \$0.0001 per share, 200,000,000 shares authorized, 5,348,276 and 5,316,166 issued, and 5,347,940 and 5,315,830 outstanding, respectively outstanding", "documentation": "Aggregate par or stated value of issued nonredeemable common stock (or common stock redeemable solely at the option of the issuer). This item includes treasury stock repurchased by the entity. Note: elements for number of nonredeemable common shares, par value and other disclosure concepts are in another section within stockholders' equity.", "auth ref": "r60", "r489", "r663", "ecd-CompActuallyPaidVsCoSelectedMeasureTextBlock", "xbrlType": "textBlockItemType", "nsuri": "http://xbrl.sec.gov/ecd/2024", "localname": "CompActuallyPaidVsCoSelectedMeasureTextBlock", "presentation": "http://xbrl.sec.gov/ecd/role/PvpDisclosure", "lang": "en-us", "role": "label", "Compensation Actually Paid vs. Company Selected Measure", "auth ref": "r740", "ecd-CompActuallyPaidVsNetIncomeTextBlock", "xbrlType": "textBlockItemType", "nsuri": "http://xbrl.sec.gov/ecd/2024", "localname": "CompActuallyPaidVsNetIncomeTextBlock", "presentation": "http://xbrl.sec.gov/ecd/role/PvpDisclosure", "lang": "en-us", "role": "label", "Compensation Actually Paid vs. Net Income", "auth ref": "r730", "ecd-CompActuallyPaidVsOtherMeasureTextBlock", "xbrlType": "textBlockItemType", "nsuri": "http://xbrl.sec.gov/ecd/2024", "localname": "CompActuallyPaidVsOtherMeasureTextBlock", "presentation": "http://xbrl.sec.gov/ecd/role/PvpDisclosure", "lang": "en-us", "role": "label", "Compensation Actually Paid vs. Other Measure", "auth ref": "r741", "ecd-CompActuallyPaidVsTotalShareholderRtnTextBlock", "xbrlType": "textBlockItemType", "nsuri": "http://xbrl.sec.gov/ecd/2024", "localname": "CompActuallyPaidVsTotalShareholderRtnTextBlock", "presentation": "http://xbrl.sec.gov/ecd/role/PvpDisclosure", "lang": "en-us", "role": "label", "Compensation Actually Paid vs. Total Shareholder Return", "auth ref": "r738", "us-gaap-ComprehensiveIncomeNetOfTax", "xbrlType": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ComprehensiveIncomeNetOfTax", "credit", "calculation", "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss", "parentTag": "null", "weight": null, "order": null, "root": true, "presentation": "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss", "lang": "en-us", "role": "label", "Total Label", "Comprehensive loss", "label": "Comprehensive Income (Loss), Net of Tax, Attributable to Parent", "documentation": "Amount after tax of increase (decrease) in equity from transactions and other events and circumstances from net income and other comprehensive income, attributable to parent entity. Excludes changes in equity resulting from investments by owners and distributions to owners.", "auth ref": "r19", "r131", "r133", "r138", "r480", "r500", "r501", "us-gaap-ComprehensiveIncomeNetOfTaxAbstract", "xbrlType": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ComprehensiveIncomeNetOfTaxAbstract", "presentation": "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss", "lang": "en-us", "role": "label", "Comprehensive loss", "auth ref": "us-gaap-ConcentrationRiskBenchmarkDomain", "xbrlType": "domainItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ConcentrationRiskBenchmarkDomain", "presentation": "http://lipocine.com/role/RevenueDetailsNarrative", "lang": "en-us", "role": "label", "documentation": "The denominator in a calculation of a disclosed concentration risk percentage.", "auth ref": "r25", "r26", "r47", "r48", "r205", "r621", "us-gaap-ConcentrationRiskByBenchmarkAxis", "xbrlType": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ConcentrationRiskByBenchmarkAxis", "presentation": "http://lipocine.com/role/RevenueDetailsNarrative", "lang": "en-us", "role": "label", "Concentration Risk Benchmark Axis", "documentation": "Information by benchmark of concentration risk.", "auth ref": "r25", "r26", "r47", "r48", "r205", "r524", "r621", "us-gaap-ConcentrationRiskByTypeAxis", "xbrlType": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ConcentrationRiskByTypeAxis", "presentation": "http://lipocine.com/role/RevenueDetailsNarrative", "lang": "en-us", "role": "label", "Concentration Risk Type Axis", "documentation": "Information by type of concentration risk, for example, but not limited to, asset, liability, net assets, geographic, customer, employees, supplier, lender.", "auth ref": "r25", "r26", "r47", "r48", "r205", "r621", "r775", "us-gaap-ConcentrationRiskPercentage", "xbrlType": "percentItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ConcentrationRiskPercentage", "presentation": "http://lipocine.com/role/RevenueDetailsNarrative", "lang": "en-us", "role": "label", "Concentration risk, percentage", "documentation": "For an entity that discloses a concentration risk in relation to quantitative amount, which serves as the benchmark (or denominator) in the equation, this concept represents the concentration percentage derived from the division.", "auth ref": "r25", "r26", "r47", "r48", "r205", "us-gaap-ConcentrationRiskTypeDomain", "xbrlType": "domainItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ConcentrationRiskTypeDomain", "presentation": "http://lipocine.com/role/RevenueDetailsNarrative", "lang": "en-us", "role": "label", "documentation": "For an entity that discloses a concentration risk as a percentage of some financial balance or benchmark, identifies the type (for example, asset, liability, net assets, geographic, customer, employees, supplier, lender) of the concentration.", "auth ref": "r25", "r26", "r47", "r48", "r205", "r621", "dei-CountryRegion", "xbrlType": "normalizedStringItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "CountryRegion", "presentation": "http://lipocine.com/role/Cover", "lang": "en-us", "role": "label", "Country Region", "documentation": "Region code of country.", "auth ref": "dei-CoverAbstract", "xbrlType": "stringItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "CoverAbstract", "lang": "en-us", "role": "label", "Cover Abstract", "documentation": "Cover page.", "auth ref": "dei-CurrentFiscalYearEndDate", "xbrlType": "gMonthDayItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "CurrentFiscalYearEndDate", "presentation": "http://lipocine.com/role/Cover", "lang": "en-us", "role": "label", "Current Fiscal Year End Date", "documentation": "End date of current fiscal year in the format --MM-DD--.", "auth ref": "us-gaap-CustomerConcentrationRiskMember", "xbrlType": "domainItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "CustomerConcentrationRiskMember", "presentation": "http://lipocine.com/role/RevenueDetailsNarrative", "lang": "en-us", "role": "label", "Customer Concentration Risk Member", "documentation": "Reflects the percentage that revenues in the period from one or more significant customers is to net revenues, as defined by the entity, such as total net revenues, product line revenues, segment revenues. The risk is the materially adverse effects of loss of a significant customer.", "auth ref": "r78", "r205", "us-gaap-DebtAndEquitySecuritiesRealizedGainLoss", "xbrlType": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "DebtAndEquitySecuritiesRealizedGainLoss", "credit", "presentation": "http://lipocine.com/role/MarketableInvestmentSecuritiesDetailsNarrative", "lang": "en-us", "role": "label", "Realized gains or losses", "documentation": "Amount of realized gain (loss) on investment in debt and equity securities.", "auth ref": "r584", "r585", "r612", "r613", "r614", "r791", "r792", "us-gaap-DebtSecuritiesAvailableForSaleTableTextBlock", "xbrlType": "textBlockItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "DebtSecuritiesAvailableForSaleTableTextBlock", "presentation": "http://lipocine.com/role/MarketableInvestmentSecuritiesTables", "lang": "en-us", "role": "label", "Schedule of Available for Sale Securities", "documentation": "Tabular disclosure of investment in debt security measured at fair value with change in fair value recognized in other comprehensive income (available for sale).", "auth ref": "r810", "r811", "r812", "r813", "r814", "r815", "r816", "r817", "r818", "r819", "r820", "r821", "us-gaap-DebtSecuritiesHeldToMaturityAllowanceForCreditLossTable", "xbrlType": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "DebtSecuritiesHeldToMaturityAllowanceForCreditLossTable", "presentation": "http://lipocine.com/role/ScheduleOfKeyAssumptionOffFairValueOfStockOptionsGrantedDetails", "lang": "en-us", "role": "label", "Debt Securities, Held to Maturity, Allowance for Credit Loss Table", "documentation": "Disclosure of information about allowance for credit loss on investment in debt security measured at amortized cost (held to maturity).", "auth ref": "r826", "us-gaap-DebtSecuritiesHeldtoMaturityAllowanceForCreditLossLineItems", "xbrlType": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "DebtSecuritiesHeldtoMaturityAllowanceForCreditLossLineItems", "presentation": "http://lipocine.com/role/ScheduleOfKeyAssumptionOffFairValueOfStockOptionsGrantedDetails", "lang": "en-us", "role": "label", "Debt Securities, Held to Maturity, Allowance for Credit Loss Line Items", "documentation": "Line items represent financial concepts included in a table. 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This can either be U.S. GAAP, International Financial Reporting Standards, or Other.", "auth ref": "r696", "dei-DocumentAnnualReport", "xbrlType": "booleanItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "DocumentAnnualReport", "presentation": "http://lipocine.com/role/Cover", "lang": "en-us", "role": "label", "Document Annual Report", "documentation": "Boolean flag that is true only for a form used as an annual report.", "auth ref": "r694", "r696", "r708", "dei-DocumentFiscalPeriodFocus", "xbrlType": "fiscalPeriodItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "DocumentFiscalPeriodFocus", "presentation": "http://lipocine.com/role/Cover", "lang": "en-us", "role": "label", "Document Fiscal Period Focus", "documentation": "Fiscal period values are FY, Q1, Q2, and Q3. 1st, 2nd and 3rd quarter 10-Q or 10-QT statements have value Q1, Q2, and Q3 respectively, with 10-K, 10-KT or other fiscal year statements having FY.", "auth ref": "dei-DocumentFiscalYearFocus", "xbrlType": "yearItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "DocumentFiscalYearFocus", "presentation": "http://lipocine.com/role/Cover", "lang": "en-us", "role": "label", "Document Fiscal Year Focus", "documentation": "This is focus fiscal year of the document report in YYYY format. For a 2006 annual report, which may also provide financial information from prior periods, fiscal 2006 should

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Financing activity cash flows include obtaining resources from owners and providing them with a return on, and a return of, their investment, borrowing money and repaying amounts borrowed, or settling the obligation, and obtaining and paying for other resources obtained from creditors on long-term credit." } } }, "auth_ref": { "r143" } }, "us-gaap-NetCashProvidedByUsedInFinancingActivitiesAbstract": { "xbrltype": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "NetCashProvidedByUsedInFinancingActivitiesAbstract", "presentation": { "http://lipocine.com/role/StatementsOfCashFlows" }, "lang": { "en-us": { "role": { "label": "Cash flows from financing activities." } } }, "auth_ref": { "us-gaap-NetCashProvidedByUsedInInvestingActivities": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "NetCashProvidedByUsedInInvestingActivities", "crdr": "debit", "calculation": { "http://lipocine.com/role/StatementsOfCashFlows": { "parentTag": "us-gaap-CashCashEquivalentsRestrictedCashAndRestrictedCashEquivalentsPeriodIncreaseDecreaseIncludingExchangeRateEffect", "weight": 1.0, "order": 2.0 } }, "presentation": { "http://lipocine.com/role/StatementsOfCashFlows" }, "lang": { "en-us": { "role": { "totalLabel": "Net cash provided by investing activities", "label": "Net Cash Provided by (Used in) Investing Activities", "documentation": "Amount of cash inflow (outflow) from investing activities, including discontinued operations. 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Includes selling, general and administrative expense." } } }, "auth_ref": { "us-gaap-OperatingExpensesAbstract": { "xbrltype": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "OperatingExpensesAbstract", "presentation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss" }, "lang": { "en-us": { "role": { "label": "Operating expenses." } } }, "auth_ref": { "us-gaap-OperatingIncomeLoss": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "OperatingIncomeLoss", "crdr": "credit", "calculation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss": { "parentTag": "us-gaap-IncomeLossFromContinuingOperationsBeforeIncomeTaxesExtraordinaryItemsNoncontrollingInterest", "weight": 1.0, "order": 1.0 } }, "presentation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss" }, "lang": { "en-us": { "role": { "totalLabel": "Operating loss", "label": "Operating Income (Loss)", "documentation": "The net result for the period of deducting operating expenses from operating revenues." } } }, "auth_ref": { "r105", "r631", "r803", "r804", "r805", "r806", "r807" }, "us-gaap-OptionIndexedToIssuersEquityEquityAxis": { "xbrltype": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "OptionIndexedToIssuersEquityEquityAxis", "presentation": { "http://lipocine.com/role/ScheduleOfAntiDilutiveSecuritiesExcludedFromComputationOfEarningsPerShareDetails" }, "lang": { "en-us": { "role": { "label": "Option Indexed to Issuer's Equity [Axis]", "documentation": "Information by type of options indexed to an issuer's equity." } } }, "auth_ref": { "r29", "r45", "r46", "r95" }, "us-gaap-OptionIndexedToIssuersEquityEquityTable": { "xbrltype": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "OptionIndexedToIssuersEquityEquityTable", "presentation": { "http://lipocine.com/role/ScheduleOfAntiDilutiveSecuritiesExcludedFromComputationOfEarningsPerShareDetails" }, "lang": { "en-us": { "role": { "label": "Option Indexed to Issuer's Equity [Line Items]", "documentation": "Line items represent financial concepts included in a table. 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Specifically, the pertinent rights and privileges of the securities outstanding." }, "auth-ref": "LPCN-OptionsMember", "xbrltype": "domainItemType", "nsuri": "http://lipocine.com/20240930", "localname": "OptionsMember", "presentation": "http://lipocine.com/role/ScheduleOfKeyAssumptionOffFairValueOfStockOptionsGrantedDetails", "lang": "en-us", "role": "label", "documentation": "Options [Member]", "presentation": "Options [Member]" }, "auth-ref": "us-gaap-OtherAssetsNoncurrent", "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "OtherAssetsNoncurrent", "credit": "debit", "calculation": "http://lipocine.com/role/BalanceSheets", "parentTag": "us-gaap-Assets", "weight": 1.0, "order": 3.0 }, "presentation": "http://lipocine.com/role/BalanceSheets", "lang": "en-us", "role": "label", "documentation": "Amount of noncurrent assets classified as other." }, "auth-ref": "r120", "us-gaap-OtherComprehensiveIncomeLossAvailableForSaleSecuritiesAdjustmentNetOfTax": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "OtherComprehensiveIncomeLossAvailableForSaleSecuritiesAdjustmentNetOfTax", "credit": "debit", "presentation": "http://lipocine.com/role/StatementsOfCashFlows", "lang": "en-us", "role": "label", "documentation": "Amount after tax and adjustment of unrealized gain (loss) on investment in debt security measured at fair value with change in fair value recognized in other comprehensive income (available for sale) and unrealized gain (loss) on investment in debt security measured at amortized cost (held-to-maturity) from transfer to available-for-sale." }, "auth-ref": "r127", "r128", "r129", "r498" }, "us-gaap-OtherComprehensiveIncomeUnrealizedHoldingGainLossOnSecuritiesArisingDuringPeriodNetOfTax": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "OtherComprehensiveIncomeUnrealizedHoldingGainLossOnSecuritiesArisingDuringPeriodNetOfTax", "credit": "debit", "calculation": "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss", "parentTag": "us-gaap-OtherComprehensiveIncomeNetOfTax", "weight": 1.0, "order": 2.0 }, "presentation": "http://lipocine.com/role/StatementsOfChangesInStockholdersEquity", "lang": "en-us", "role": "label", "documentation": "Not unrealized gain on marketable investment securities.", "verboseLabel": "Unrealized net gain on marketable investment securities", "presentation": "Amount after tax and before adjustment of unrealized holding gain (loss) on investment in debt security measured at fair value with change in fair value recognized in other comprehensive income (available for sale). 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Related party includes, but is not limited to, affiliate, other entity for which investment is accounted for under equity method, trust for benefit of employee, principal owner, management, and member of immediate family, and other party that may be prevented from pursuing separate interests because of control, significant influence, or ownership interest." } } }, "auth ref": { "r207": "r313", "r436", "r437", "r487", "r493", "r550", "r551", "r552", "r553", "r554", "r574", "r576", "r605", "r851" } } }, "us-gaap- RelatedPartyTransactionsDisclosureTextBlock": { "xbrltype": "textBlockItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "RelatedPartyTransactionsDisclosureTextBlock", "presentation": { "http://lipocine.com/role/AgreementWithSpriasoLlc": { "lang": { "en-us": { "role": { "label": "Agreement with Spriaso, LLC", "documentation": "The entire disclosure for related party transactions. 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Includes, but is not limited to, disaggregation of revenue, credit loss recognized from contract with customer, judgment and change in judgment related to contract with customer, and asset recognized from cost incurred to obtain or fulfill contract with customer. Excludes insurance and lease contracts." } } }, "auth ref": { "r110", "r205", "r296", "r297", "r298", "r299", "r300", "r301", "r302", "r305" } } }, "LPCN- RevenueRecognitionServicesLicensingFee": { "xbrltype": "monetaryItemType", "nsuri": "http://lipocine.com/20240930", "localname": "RevenueRecognitionServicesLicensingFee", "crdr": "credit", "calculation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss": { "parentTag": "us-gaap- Revenues", "weight": 1.0, "order": 1.0 } }, "presentation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss": { "lang": { "en-us": { "role": { "label": "License revenue", "documentation": "Revenue recognition services licensing fees." } } }, "auth ref": { "LPCN- RevenueReversalOfVariableConsideration": { "xbrltype": "monetaryItemType", "nsuri": "http://lipocine.com/20240930", "localname": "RevenueReversalOfVariableConsideration", "crdr": "debit", "presentation": { "http://lipocine.com/role/ContractualAgreementsDetailsNarrative": { "http://lipocine.com/role/RevenueDetailsNarrative": { "lang": { "en-us": { "role": { "label": "Licensing revenue", "documentation": "Revenue reversal of variable consideration." } } }, "auth ref": { "us-gaap- Revenues": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "Revenues", "crdr": "credit", "calculation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss": { "parentTag": "us-gaap- OperatingIncomeLoss", "weight": 1.0, "order": 1.0 } }, "presentation": {

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Includes, but is not limited to: investment and interest income before deduction of interest expense when recognized as a component of revenue, and sales and trading gain (loss)." } } }, "auth_ref": { "r103", "r104", "r137", "r147", "r101", "r106", "r107", "r200", "r202", "r203", "r204", "r205", "r243", "r267", "r268", "r269", "r270", "r271", "r272", "r273", "r274", "r275", "r417", "r482", "r632", "r832" } }, "us-gaap-RevenuesAbstract": { "xbrltype": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "RevenuesAbstract", "presentation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss": { "lang": { "en-us": { "role": { "label": "Revenues", "documentation": "Terms of the Royalty Agreement", "xbrltype": "domainItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "RoyaltyAgreementTermsMember", "presentation": { "http://lipocine.com/role/ContractualAgreementsDetailsNarrative": { "lang": { "en-us": { "role": { "label": "Royalty Agreement Terms", "documentation": "Terms of the Royalty Agreement under research and development arrangements." } } }, "auth_ref": { "r11", "us-gaap-RoyaltyExpense": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "RoyaltyExpense", "crdr": "debit", "presentation": { "http://lipocine.com/role/ContractualAgreementsDetailsNarrative": { "lang": { "en-us": { "role": { "label": "Royalty expense", "documentation": "Amount of expense related to royalty payments under a contractual arrangement such as payment for mineral and drilling rights and use of technology or intellectual property." } } }, "auth_ref": { "r69", "us-gaap-RoyaltyGuaranteesCommitmentsAmount": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "RoyaltyGuaranteesCommitmentsAmount", "crdr": "credit", "presentation": { "http://lipocine.com/role/ContractualAgreementsDetailsNarrative": { "lang": { "en-us": { "role": { "label": "Royalties commitment amount", "documentation": "The amount the entity has committed to make for future royalty guarantees." } } }, "auth_ref": { "r477", "us-gaap-RoyaltyIncomeNonoperating": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "RoyaltyIncomeNonoperating", "crdr": "credit", "presentation": { "http://lipocine.com/role/ContractualAgreementsDetailsNarrative": { "lang": { "en-us": { "role": { "label": "Royalty recognised", "documentation": "Ancillary revenue earned during the period from the consideration paid to the entity for the use of its rights and property by another party. Examples include licensing the use of copyrighted materials and leasing the extraction of natural resources." } } }, "auth_ref": { "r71", "LPCN-RoyaltyRevenue": { "xbrltype": "monetaryItemType", "nsuri": "http://lipocine.com/20240930", "localname": "RoyaltyRevenue", "crdr": "credit", "calculation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss": { "parentTag": "us-gaap-Revenues", "weight": 1.0, "order": 2.0 } }, "presentation": { "http://lipocine.com/role/StatementsOfOperationsAndComprehensiveLoss": { "lang": { "en-us": { "role": { "label": "Royalty revenue", "documentation": "Royalty revenue." } } }, "auth_ref": { "ecd-Rule10b51ArrAdoptedFlag": { "xbrltype": "booleanItemType", "nsuri": "http://xbrl.sec.gov/ecd/2024", "localname": "Rule10b51ArrAdoptedFlag", "presentation": { "http://xbrl.sec.gov/ecd/role/InsiderTradingArrangements": { "lang": { "en-us": { "role": { "label": "Rule 10b5-1 Arrangement Adopted", "auth_ref": { "r762", "ecd-Rule10b51ArrTrmndFlag": { 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income and statement of financial position. Includes, but is not limited to: corresponding line item in financial statement." } } }, "auth_ref": { "r42", "us-gaap-ScheduleOffFairValueAssetsAndLiabilitiesMeasuredOnRecurringBasisTableTextBlock": { "xbrltype": "textBlockItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ScheduleOffFairValueAssetsAndLiabilitiesMeasuredOnRecurringBasisTableTextBlock", "presentation": { "http://lipocine.com/role/FairValueTables": { "lang": { "en-us": { "role": { "label": "Schedule of Fair Value, Assets and Liabilities Measured on Recurring Basis", "documentation": "Tabular disclosure of assets and liabilities, including financial instruments measured at fair value that are classified in stockholders' equity, if any, that are measured at fair value on a recurring basis. The disclosures contemplated herein include the fair value measurements at the reporting date by the level within the fair value hierarchy in which the fair value measurements in their entirety fall, segregating fair value measurements using quoted prices in active markets for identical assets (Level 1), significant other observable inputs (Level 2), and significant unobservable inputs (Level 3)." } } }, "auth_ref": { "r842", "r843", "LPCN-ScheduleOffFairValueOfWarrantsTableTextBlock": { "xbrltype": "textBlockItemType", "nsuri": "http://lipocine.com/20240930", "localname": "ScheduleOffFairValueOfWarrantsTableTextBlock", "presentation": { "http://lipocine.com/role/StockholdersEquityTables": { "lang": { "en-us": { "role": { "label": "Schedule of Fair Value of Warrants", "documentation": "Schedule of Fair Value of Warrants", "auth_ref": { "LPCN-ScheduleOfReconciliationOfWarrantLiabilityTableTextBlock": { "xbrltype": "textBlockItemType", "nsuri": "http://lipocine.com/20240930", "localname": "ScheduleOfReconciliationOfWarrantLiabilityTableTextBlock", "presentation": { "http://lipocine.com/role/StockholdersEquityTables": { "lang": { "en-us": { "role": { "label": "Schedule of Reconciliation of Warrant Liability", "documentation": "Schedule of Reconciliation of Warrant Liability", "auth_ref": { "us-gaap-ScheduleOfShareBasedCompensationArrangementsByShareBasedPaymentAwardTable": { "xbrltype": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ScheduleOfShareBasedCompensationArrangementsByShareBasedPaymentAwardTable", "presentation": { "http://lipocine.com/role/ScheduleOfComputationOfBasicAndDilutedEarningsLossPerShareOfCommonStockDetails": { "http://lipocine.com/role/ScheduleOfNumberOfWarrantsOutstandingAndWeightedAverageExercisePriceDetails": { "http://lipocine.com/role/SummaryOfRestrictedStockUnitActivityDetails": { "lang": { "en-us": { "role": { "label": "Schedule of Share-Based Compensation Arrangements by Share-Based Payment Award", "documentation": "Disclosure of information about share-based payment arrangement." } } }, "auth_ref": { "r316", "r318", "r320", "r321", "r322", "r323", "r324", "r325", "r326", "r327", "r328", "r329", "r330", "r331", "r332", "r333", "r334", "r335", "r336", "r337", "r338", "r339", "r340", "r341", "r342", "r343", "r344", "r345", "us-gaap-ScheduleOfShareBasedCompensationStockOptionsActivityTableTextBlock": { "xbrltype": "textBlockItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ScheduleOfShareBasedCompensationStockOptionsActivityTableTextBlock", "presentation": { "http://lipocine.com/role/StockholdersEquityTables": { "lang": { "en-us": { "role": { "label": "Schedule of Stock Option Activity", "documentation": "Tabular disclosure for stock option plans, including, but is not limited to: outstanding awards at beginning and end of year, grants, exercises, forfeitures, and weighted average grant date fair value." } } }, "auth_ref": { "r13", "r14", "r87", "us-gaap-ScheduleOfShareBasedPaymentAwardStockOptionsValuationAssumptionsTableTextBlock": { "xbrltype": "textBlockItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ScheduleOfShareBasedPaymentAwardStockOptionsValuationAssumptionsTableTextBlock", "presentation": { "http://lipocine.com/role/StockholdersEquityTables": { "lang": { "en-us": { "role": { "label": "Schedule of Key Assumption of Fair Value of Stock Options Granted", "documentation": "Tabular disclosure of the significant assumptions used during the year to estimate the fair value of stock options, including, but not limited to: (a) expected term of share options and similar instruments, (b) expected volatility of the entity's shares, (c) expected dividends, (d) risk free rate(s), and (e) discount for post-vesting restrictions." } } }, "auth_ref": { "r94", "us-gaap-ScheduleOfSharebasedCompensationRestrictedStockAndRestrictedStockUnitsActivityTableTextBlock": { "xbrltype": "textBlockItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ScheduleOfSharebasedCompensationRestrictedStockAndRestrictedStockUnitsActivityTableTextBlock", "presentation": { "http://lipocine.com/role/StockholdersEquityTables": { "lang": { "en-us": { "role": { "label": "Summary of Restricted Stock Unit Activity", "documentation": "Disclosure of the number and weighted average grant date fair value for restricted stock and restricted stock units that were outstanding at the beginning and end of the year and the number of restricted stock and restricted stock units that were granted, vested, or forfeited during the year." } } }, "auth_ref": { "us-gaap-ScheduleOfStockByClassTable": { "xbrltype": "stringItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ScheduleOfStockByClassTable", "presentation": { "http://lipocine.com/role/StockholdersEquityDetailsNarrative": { "lang": { "en-us": { "role": { "label": "Stock, Class of Stock", "documentation": "Disclosure of information about stock by class. Includes, but is not limited to: common, convertible, and preferred stocks." } } }, "auth_ref": { "r30", "r31", "r33", "r34", "r35", "r37", "r81", "r83", "r84", "r85", "r122", "r123", "r124", "r193", "r270", "r280", "r281", "r283", "r286", "r291", "r293", "r526", "r527", "r528", "r529", "r638", "r771", "r794", "us-gaap-ScheduleOfStockholdersEquityNoteWarrantsOrRightsTextBlock": { "xbrltype": "textBlockItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ScheduleOfStockholdersEquityNoteWarrantsOrRightsTextBlock", "presentation": { "http://lipocine.com/role/StockholdersEquityTables": { "lang": { "en-us": { "role": { "label": "Schedule of Number of Warrants Outstanding and the Weighted Average Exercise Price", "documentation": "Tabular disclosure of warrants or rights issued. Warrants and rights outstanding are derivative securities that give the holder the right to purchase securities (usually equity) from the issuer at a specific price within a certain time frame. Warrants are often included in a new debt issue to entice investors by a higher return potential. The main difference between warrants and call options is that warrants are issued and guaranteed by the company, whereas options are exchange instruments and are not issued by the company. Also, the lifetime of a warrant is often measured in years, while the lifetime of a typical option is measured in months. Disclose the title of issue of securities called for by warrants and rights outstanding, the aggregate amount of securities called for by warrants and rights outstanding, the date from which the warrants or rights are exercisable, and the price at which the warrant or right is exercisable." } } }, "auth_ref": { "r40", "dei-Security12bTitle": { "xbrltype": "securityTitleItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "Security12bTitle", "presentation": { "http://lipocine.com/role/Cover": { "lang": { "en-us": { "role": { "label": "Title of 12(b) Security", "documentation": "Title of a 12(b) registered security." } } }, "auth_ref": { "r684", "dei-Security12gTitle": { "xbrltype": "securityTitleItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "Security12gTitle", "presentation": { "http://lipocine.com/role/Cover": { "lang": { "en-us": { "role": { "label": "Title of 12(g) Security", "documentation": "Title of a 12(g) registered security." } } }, "auth_ref": { "r688", "dei-SecurityExchangeName": { "xbrltype": "securityExchangeName", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "SecurityExchangeName", "presentation": { "http://lipocine.com/role/Cover": { "lang": { "en-us": { "role": { "label": "Security Exchange Name", "documentation": "Name of the Exchange on which a security is registered." } } }, "auth_ref": { "r687", "dei-SecurityReportingObligation": { "xbrltype": "securityReportingObligationItemType", "nsuri": "http://xbrl.sec.gov/dei/2024", "localname": "SecurityReportingObligation", "presentation": { "http://lipocine.com/role/Cover": { "lang": { "en-us": { "role": { "label": "Security Reporting Obligation", "documentation": "15(d) indicating whether the security has a reporting obligation under that section of the Exchange Act." } } }, "auth_ref": { "r693", "us-gaap-SeriesBPreferredStockMember": { "xbrltype": "domainItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "SeriesBPreferredStockMember", "presentation": { "http://lipocine.com/role/StatementsOfChangesInStockholdersEquity": { "http://lipocine.com/role/StockholdersEquityDetailsNarrative": { "lang": { "en-us": { "role": { "label": "Series B Preferred Stock", "documentation": "Series B preferred stock." } } }, "auth_ref": { "r783", "r784", "LPCN-ServiceAgreementMember": { "xbrltype": "domainItemType", "nsuri": "http://lipocine.com/20240930", "localname": "ServiceAgreementMember", "presentation": { "http://lipocine.com/role/AgreementWithSpriasoLleDetailsNarrative": { "lang": { "en-us": { "role": { "label": "Service Agreement", "documentation": "Service Agreement", "auth_ref": { "us-gaap-ShareBasedCompensation": { "xbrltype": "monetaryItemType", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ShareBasedCompensation", "crdr": "debit", "calculation": { "http://lipocine.com/role/StatementsOfCashFlows": { "parentTag": "us-gaap-NetCashProvidedByUsedInOperatingActivities", "weight": 1.0, "order": 3.0 } }, "presentation": { "http://lipocine.com/role/ScheduleOfEmployeeServiceShareBasedCompensationAllocationOfRecognizedPeriodCostsDetails": { "http://lipocine.com/role/StatementsOfCashFlows": { "http://lipocine.com/role/StockholdersEquityDetailsNarrative": { "lang": {

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In 'PnYnMnDnHnMnS' format, for example, 'P1Y5M13D' represents the reported fact of one year, five months, and thirteen days." } } } "auth ref": "r650" } } }, "us-gaap_SharebasedCompensationArrangementBySharebasedPaymentAwardFairValueAssumptionsExpectedTerm1", "xbrltype": "durationItem", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardFairValueAssumptionsExpectedTerm1", "presentation": "http://lipocine.com/role/FairValueDetailsNarrative", "http://lipocine.com/role/ScheduleOfFairValueOfWarrantsDetails", "http://lipocine.com/role/ScheduleOfKeyAssumptionOfFairValueOfStockOptionsGrantingDetails", "lang": "en-us", "role": "label", "Expected life", "verboseLabel": "Expected term", "terselabel": "Expected life in years", "documentation": "Expected term of award under share-based payment arrangement in 'PnYnMnDnHnMnS' format, for example, 'P1Y5M13D' represents reported fact of one year, five months, and thirteen days." } } } "auth ref": "r341" } } }, "us-gaap_SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsExercisableIntrinsicValue1", "xbrltype": "monetaryItem", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsExercisableIntrinsicValue1", "crd": "debit", "presentation": "http://lipocine.com/role/ScheduleOfShare-basedCompensationOfStockOptionsOutstandingAndExercisableDetails", "lang": "en-us", "role": "label", "Options exercisable, Aggregate intrinsic value", "documentation": "Amount of difference between fair value of the underlying shares reserved for issuance and exercise price of vested portions of options outstanding and currently exercisable." } } } "auth ref": "r41" } } }, "us-gaap_ShareBasedCompensationArrangementBySharebasedPaymentAwardOptionsExercisableWeightedAverageRemainingContractualTerm1", "xbrltype": "durationItem", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsExercisableWeightedAverageRemainingContractualTerm1", "presentation": "http://lipocine.com/role/ScheduleOfShare-basedCompensationOfStockOptionsOutstandingAndExercisableDetails", "lang": "en-us", "role": "label", "Options exercisable, Weighted average remaining contractual life (Years)", "documentation": "Weighted average remaining contractual term for vested portions of options outstanding and currently exercisable or convertible in 'PnYnMnDnHnMnS' format, for example, 'P1Y5M13D' represents the reported fact of one year, five months, and thirteen days." } } } "auth ref": "r41" } } }, "us-gaap_ShareBasedCompensationArrangementBySharebasedPaymentAwardOptionsOutstandingWeightedAverageRemainingContractualTerm2", "xbrltype": "durationItem", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsOutstandingWeightedAverageRemainingContractualTerm2", "presentation": "http://lipocine.com/role/ScheduleOfShare-basedCompensationOfStockOptionsOutstandingAndExercisableDetails", "lang": "en-us", "role": "label", "Options outstanding, Weighted average remaining contractual life (Years)", "documentation": "Weighted average remaining contractual term for option awards outstanding in 'PnYnMnDnHnMnS' format, for example, 'P1Y5M13D' represents the reported fact of one year, five months, and thirteen days." } } } "auth ref": "r92" } } }, "us-gaap_ShareIssuedPricePerShare", "xbrltype": "perShareItem", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "ShareIssuedPricePerShare", "presentation": "http://lipocine.com/role/StockholdersEquityDetailsNarrative", "lang": "en-us", "role": "label", "Shares issued, price per share", "documentation": "Per share or per unit amount of equity securities issued." } } } "auth ref": " " } } }, "us-gaap_SharesOutstanding", "xbrltype": "sharesItem", "nsuri": "http://fasb.org/us-gaap/2024", "localname": "SharesOutstanding", "presentation": "http://lipocine.com/role/StatementsOfChangesInStockholdersEquity", "lang": "en-us", "role": "periodStartLabel", "Balance, shares", "periodEndLabel": "Balance, shares", "label": "Shares, Outstanding", "documentation": "Number of shares issued which are neither cancelled nor held in the treasury." } } } "auth ref": " " } } }, "dei_SolicitingMaterial", "xbrltype": "booleanItem", "nsuri": "http://xbrl.sec.gov/dci/2024", "localname": "SolicitingMaterial", "presentation": "http://lipocine.com/role/Cover", "lang": "en-us", "role": "label", "Soliciting Material", "documentation": "Boolean flag that is true when the Form 8-K filing is intended to satisfy the filing obligation of the registrant as soliciting material pursuant to Rule 14a-12 under the Exchange Act." } } } "auth ref": "r691" } } }, "LPCN_SpriasoLLCMember", "xbrltype": "domainItem", "nsuri": "http://lipocine.com/20240930", "localname": "SpriasoLLCMember", "presentation": "http://lipocine.com/role/AgreementWithSpriasoLLCDetailsNarrative", "lang": "en-us",
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and are held by the entity's shareholders. Securities outstanding equals securities issued minus securities held in treasury. Temporary equity is a security with redemption features that are
outside the control of the issuer, is not classified as an asset or liability in conformity with GAAP, and is not mandatorily redeemable. Includes any type of security that is redeemable at a fixed
or determinable price or on a fixed or determinable date or dates, is redeemable at the option of the holder, or has conditions for redemption which are not solely within the control of the
issuer. If convertible, the issuer does not control the actions or events necessary to issue the maximum number of shares that could be required to be delivered under the conversion option if
the holder exercises the option to convert the stock to another class of equity. If the security is a warrant or a rights issue, the warrant or rights issue is considered to be temporary equity if the
issuer cannot demonstrate that it would be able to deliver upon the exercise of the option by the holder in all cases. Includes stock with put option held by ESOP and stock redeemable by holder
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