REFINITIV

DELTA REPORT

10-Q

HCWB - HCW BIOLOGICS INC.

10-Q - JUNE 30, 2024 COMPARED TO 10-Q - MARCH 31, 2024

The following comparison report has been automatically generated

TOTAL DELTAS	2933
CHANGES	220
DELETIONS	1143
ADDITIONS	1570

REFINITIV

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, June 30, 2024

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 001-40591

HCW Biologics Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**82-5024477**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
2929 N. Commerce Parkway Miramar, Florida	**33025**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (954) 842–2024

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, par value $0.0001 per share	**HCWB**	**The Nasdaq Stock Market LLC**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
Emerging growth company	☒		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of May 13, 2024 August 9, 2024, the registrant had 37,823,394 shares of common stock, $0.0001 par value per share, outstanding.

Table of Contents

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

HCW Biologics Inc.
Condensed Balance Sheets

	December 31, 2023	March 31, 2024 Unaudited	December 31, 2023	June 30, 2024 Unaudited
ASSETS				
Current assets:				
Cash and cash equivalents	$ 3,595,101	$ 4,084,076	$ 3,595,101	$ 1,161,314
Accounts receivable, net	1,535,757	903,884	1,535,757	654,973
Secured note receivable	—	250,000		
Prepaid expenses	1,042,413	783,423	1,042,413	404,918
Other current assets	230,916	187,267	230,916	164,607
Total current assets	6,404,187	6,208,650	6,404,187	2,385,812
Investments	1,599,751	1,599,751	1,599,751	1,599,751
Property, plant and equipment, net	20,453,184	22,590,779	20,453,184	22,806,052

Other assets	56,538	28,476	56,538	28,476
Total assets	$ 28,513,660	$ 30,427,656	$ 28,513,660	$ 26,820,091
LIABILITIES AND STOCKHOLDERS' EQUITY				
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)				
Liabilities				
Current liabilities:				
Accounts payable	$ 6,167,223	$ 10,493,416	$ 6,167,223	$ 16,877,463
Accrued liabilities and other current liabilities	2,580,402	2,919,190	2,580,402	6,341,676
Total current liabilities	8,747,625	13,412,606	8,747,625	23,219,139
Debt, net	6,304,318	8,274,449	6,304,318	9,900,721
Total liabilities	15,051,943	21,687,055	15,051,943	33,119,860
Commitments and contingencies (Note 8)				
Stockholders' equity:				
Stockholders' equity (deficit):				
Common stock:				
Common, $0.0001 par value; 250,000,000 shares authorized and 36,025,104 shares issued at December 31, 2023; 250,000,000 shares authorized and 37,823,394 shares issued at March 31, 2024	3,603	3,782		
Common, $0.0001 par value; 250,000,000 shares authorized and 36,025,104 shares issued at December 31, 2023; 250,000,000 shares authorized and 37,823,394 shares issued at June 30, 2024	3,603	3,782		
Additional paid-in capital	83,990,437	86,737,203	83,990,437	86,977,024
Accumulated deficit	(70,532,323)	(78,000,384)	(70,532,323)	(93,280,575)
Total stockholders' equity	13,461,717	8,740,601		
Total liabilities and stockholders' equity	$ 28,513,660	$ 30,427,656		
Total stockholders' equity (deficit)	13,461,717	(6,299,769)		
Total liabilities and stockholders' equity (deficit)	$ 28,513,660	$ 26,820,091		

See accompanying notes to the unaudited condensed interim financial statements.

HCW Biologics Inc.
Condensed Statements of Operations
(Unaudited)

	Three Months Ended March 31,		Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2024	2023	2024	2023	2024
Revenues:						
Revenues	$ 41,883	$ 1,126,712	$ 622,807	$ 618,854	$ 664,690	$ 1,745,566
Cost of revenues	(29,350)	(511,965)	(502,402)	(438,443)	(531,752)	(950,408)
Net revenues	12,533	614,747	120,405	180,411	132,938	795,158
Operating expenses:						
Research and development	2,255,813	2,123,284	1,616,666	2,029,186	3,872,479	4,152,470
General and administrative	3,117,290	5,985,126	1,587,861	1,594,193	3,596,739	3,160,285
Legal expenses	1,426,399	10,393,042	2,534,811	14,812,076		

Nonoperating loss	—	1,300,000	—	1,300,000		
Total operating expenses	5,373,103	8,108,410	4,630,926	15,316,421	10,004,029	23,424,831
Loss from operations	(5,360,570)	(7,493,663)	(4,510,521)	(15,136,010)	(9,871,091)	(22,629,673)
Interest expense	(93,438)	—	(95,514)	(159,666)	(188,951)	(159,666)
Other (expense) income, net	383,322	25,602	301,615	15,485	684,936	41,086
Net loss	$ (5,070,686)	$ (7,468,061)	$ (4,304,420)	$ (15,280,191)	$ (9,375,106)	$ (22,748,253)
Net loss per share, basic and diluted	$ (0.14)	$ (0.20)	$ (0.12)	$ (0.40)	$ (0.26)	$ (0.61)
Weighted average shares outstanding, basic and diluted	35,883,779	37,223,588	35,910,669	37,823,394	35,897,224	37,523,491

See accompanying notes to the unaudited condensed interim financial statements.

HCW Biologics Inc.
Condensed Statements of Changes in Stockholders' Equity (Deficit)
For the Three Six Months Ended March 31, 2023 June 30, 2023 and 2024
(Unaudited)

	Stockholders' Equity					Stockholders' Equity				
	Common Stock		Additional Paid-In	Accumulated	Total Stockholders'	Common Stock		Additional Paid-In	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Deficit	Equity	Shares	Amount	Capital	Deficit	Equity
Balance, December 31, 2022	35,876,440	$ 3,588	$ 82,962,964	$ (45,538,046)	$ 37,428,506	35,876,440	$ 3,588	$ 82,962,964	$ (45,538,046)	$ 37,428,506
Issuance of Common Stock upon exercise of stock options	10,195	1	1,900	—	1,901	10,195	1	1,900	—	1,901
Stock-based compensation	—	—	259,206	—	259,206	—	—	259,206	—	259,206
Net loss	—	—	—	(5,070,686)	(5,070,686)	—	—	—	(5,070,686)	(5,070,686)
Balance, March 31, 2023	**35,886,635**	**$ 3,589**	**$ 83,224,070**	**$ (50,608,732)**	**$ 32,618,927**	**35,886,635**	**$ 3,589**	**$ 83,224,070**	**$ (50,608,732)**	**$ 32,618,927**
Issuance of Common Stock upon exercise of stock options	40,086	4	7,708	—	7,712					
Stock-based compensation	—	—	263,423		263,423					
Net loss	—	—	—	(4,304,420)	(4,304,420)					
Balance, June 30, 2023	**35,926,721**	**$ 3,593**	**$ 83,495,201**	**$ (54,913,152)**	**$ 28,585,642**					

	Stockholders' Equity					Stockholders' Equity (Deficit)				
	Common Stock		Additional Paid-In	Accumulated	Total Stockholders'	Common Stock		Additional Paid-In	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Deficit	Equity	Shares	Amount	Capital	Deficit	Equity (Deficit)
Balance, December 31, 2023	36,025,104	$ 3,603	$ 83,990,437	$ (70,532,323)	$ 13,461,717	36,025,104	$ 3,603	$ 83,990,437	$ (70,532,323)	$ 13,461,717
Issuance of Common Stock upon exercise of stock options	12,572	1	2,254	—	2,255	12,572	1	2,254	—	2,255
Issuance of Common Stock upon equity subscription	1,785,718	178	2,499,827		2,500,005	1,785,718	178	2,499,827	—	2,500,005
Stock-based compensation	—	—	244,685	—	244,685	—	—	244,685	—	244,685
Net loss	—	—	—	(7,468,061)	(7,468,061)	—	—	—	(7,468,061)	(7,468,061)
Balance, March 31, 2024	**37,823,394**	**$ 3,782**	**$ 86,737,203**	**$ (78,000,384)**	**$ 8,740,601**	**37,823,394**	**$ 3,782**	**$ 86,737,203**	**$ (78,000,384)**	**$ 8,740,601**
Issuance of Common Stock upon exercise of stock options	—	—	—	—	—					
Stock-based compensation	—	—	239,821	—	239,821					
Net loss	—	—	—	(15,280,191)	(15,280,191)					

Balance, June 30, 2024	**37,823,394**	**$ 3,782**	**$ 86,977,024**	**$ (93,280,575)**	**$ (6,299,769)**

See accompanying notes to the unaudited condensed interim financial statements.

HCW Biologics Inc.
Condensed Statements of Cash Flows
(Unaudited)

	Three Months Ended March 31,		Six Months Ended June 30,	
	2023	**2024**	**2023**	**2024**
Cash flows from operating activities:				
Net loss	$ (5,070,686)	$ (7,468,061)	$ (9,375,106)	$ (22,748,253)
Adjustments to reconcile net loss to net cash used in operating activities:				
Depreciation and amortization	298,847	243,501	583,180	373,433
Stock-based compensation	259,206	244,685	522,629	484,506
Unrealized loss (gain) on investments, net	(112,500)	—	(223,440)	—
Changes in the carrying amount of right-of-use asset	209	(418)	(418)	(418)
Changes in operating assets and liabilities:				
Accounts receivable	164,967	631,873	(289,516)	880,784
Deposit for interest reserve	(5,250,000)	—		
Prepaid expenses and other assets	182,294	302,640	(49,819)	703,805
Accounts payable and other liabilities	718,675	2,498,451	1,212,921	11,896,608
Operating lease liability	(79,225)	(56,541)	(160,490)	(56,541)
Net cash used in operating activities	(3,638,213)	(3,603,870)	(13,030,059)	(8,466,076)
Cash flows from investing activities:				
Purchases of property and equipment	(300,385)	(129,709)	(1,856,900)	(111,142)
Net cash used in investing activities	(300,385)	(129,709)	(1,856,900)	(111,142)
Cash flows from financing activities:				
Proceeds from issuance of common stock	1,901	2,502,260	9,613	2,502,260
Proceeds from issuance of debt, net	—	1,750,000		
Proceeds from issuance of debt	—	3,700,000		
Debt repayment	—	(29,706)	—	(58,829)
Net cash provided by financing activities	1,901	4,222,554	9,613	6,143,431
Net (decrease) increase in cash and cash equivalents	(3,936,697)	488,975	(14,877,346)	(2,433,787)
Cash and cash equivalents at the beginning of the period	22,326,356	3,595,101	22,326,356	3,595,101
Cash and cash equivalents at the end of the period	$ 18,389,659	$ 4,084,076	$ 7,449,010	$ 1,161,314
Supplemental disclosure of cash flow information:				
Cash paid for interest, net of amounts capitalized	$ 93,438	$ —	$ 188,951	$ 159,666
Noncash operating, investing and financing activities:				
Capital expenditures accrued, but not yet paid	$ —	$ 2,192,255	$ 357,466	$ 1,769,621
Purchases of property and equipment included in accounts payable and other liabilities	$ 18,382	$ 829,207		

See accompanying notes to the unaudited condensed interim financial statements.

HCW Biologics Inc.
Notes to Condensed Interim Financial Statements
(Unaudited)

1. Organization and Summary of Significant Accounting Policies

Organization

HCW Biologics Inc. (the "Company") is a biopharmaceutical company focused on discovering and developing novel immunotherapies to lengthen healthspan by disrupting the link between chronic, low-grade inflammation and age-related diseases. The Company believes age-related low-grade chronic inflammation, or "inflammaging," is a significant contributing factor to several chronic diseases and conditions, such as cancer, cardiovascular disease, diabetes, neurodegenerative diseases, and autoimmune diseases. The Company is located in Miramar, Florida and was incorporated in the state of Delaware in April 2018.

Liquidity and Going Concern

In accordance with ASC FASB Accounting Standards Codification ("ASC") 205-40, Presentation of Financial Statements – Going Concern ("Topic 205-40"), we are management is required to evaluate whether there are conditions and events, considered in the aggregate that raise substantial doubt about our the Company's ability to continue as a going concern for at least 12 months from the issuance date of the Company's condensed interim financial statements. This evaluation does not take into consideration the potential mitigating effect of management's plans that have not been fully implemented or are not within control of the Company as of the date the financial statements are issued. When substantial doubt exists under this methodology, management evaluates whether the mitigating effect of its plans sufficiently alleviates substantial doubt about the Company's ability to continue as a going concern. The mitigating effect of management's plans, however, is only considered if both (1) it is probable that the plans will be effectively implemented within one year after the date that the financial statements are issued, and (2) it is probable that the plans, when implemented, will mitigate the relevant conditions or events that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are issued.

As of March 31, 2024 June 30, 2024, the Company had not generated any revenue from commercial product sales of its internally-developed immunotherapeutic products for the treatment of cancer and other age-related diseases. In the course of its development activities, the Company has sustained operating losses and expects to continue to incur operating losses for the foreseeable future. Since inception to March 31, 2024 June 30, 2024, the Company incurred cumulative net losses of $75.5 90.8 million. As of March 31, 2024 June 30, 2024, the Company had $4.1 1.2 million in cash and cash equivalents. Management expects to incur additional losses in the future to conduct product research and development and recognizes the need to raise additional capital to fully implement its business plan. The cash balance as of June 30, 2024 reflects the events reported in the Form 8-K filed on May 1, 2024 with the Securities and Exchange Commission ("SEC"), in which the Company reported that it was a victim of a criminal scheme involving the impersonation of a purchaser upon the default on a legally binding commitment to purchase $8.0 million of secured notes from the Company. Further, the scheme resulted in the misdirection of approximately $1.3 million held in Company accounts to a fraudulent account controlled by a third party. The Company is pursuing all available remedies to recover this loss. Given the limited success that these efforts have had to date for the recovery of funds, the Company recognized a loss of $1.3 million in the three- and six-month periods ended June 30, 2024. As a result of these conditions, substantial doubt about the Company's ability to continue as a going concern was raised. This issue was first identified as of December 31, 2023.

To date, the Company has funded operations primarily through the sale of stock, issuance of senior secured notes and revenues generated from the Company's exclusive worldwide license with Wugen, Inc. ("Wugen"), pursuant to which Wugen licensed limited rights to develop, manufacture, and commercialize cell therapy treatments for cancer based on two of the Company's internally-developed multi-cytokine fusion protein molecules, and its manufacturing and supply arrangement with Wugen. In the three months ended March 31, 2023 June 30, 2023 and 2024, the Company recognized revenues of $41,883 and $1.1 million, respectively, generated from the supply of clinical and research grade material to Wugen. Wugen of $622,807 and $618,854, respectively. In the six months ended June 30, 2023 and 2024, the Company recognized revenues generated from the supply of clinical and research grade material to Wugen of $664,690 and $1.7 million, respectively.

As of March 31, 2024 June 30, 2024, we held $4.1 million the conclusion of cash and cash equivalents, and a going concern assessment was that there was substantial doubt about the Company's ability to continue as a going concern. Under the guidance of Topic 205-40 for going concern assessment, we management evaluated whether we there were facts or circumstances that mitigated substantial doubt over our the Company's ability to remain a going concern. We Management considered that the Company is expecting to continue to generate losses as its products are in clinical development and will not generate commercial sales. Subsequent to The Company also considered the end burden on resources of legal proceedings.

As reported in the first quarter, Company's Form 8-K filed on July 18, 2024 and further described in Part II, Item 1. – "Legal Proceedings" below, as of July 13, 2024, the Company raised $1.6 million in additional financing, consisting of funds received from the issuance of senior secured notes ("Secured Notes") to and Dr. Hing C. Wong, the Company's Founder and Chief Executive Officer. After considering management's plan for financing Officer, entered into a confidential Settlement Agreement and funds raised since year end, management concluded that substantial doubt is not alleviated. Therefore, substantial doubt remains over whether Release (the "Settlement Agreement") with Altor BioScience, LLC ("Altor"), NantCell, Inc. ("NantCell"), and ImmunityBio, Inc. (the parent of Altor and NantCell, together with Altor and NantCell, "ImmunityBio"), to resolve the previously disclosed arbitration before JAMS brought by Altor and NantCell (the "Arbitration") as well as a complaint Altor filed against the Company has in the ability to continue as a going concern within 12 months from the date of issuance Chancery Court of the condensed interim financial statements. State of Delaware for the contribution of legal fees and expenses advanced to Dr. Wong ("Complaint"). The Settlement Agreement includes mutual general releases by and among the parties thereto. No party is required to make any monetary payments to any other party or person under the Settlement Agreement and each party will bear its own expenses incurred in connection with the matter. The Company is completing procedures required to be in compliance with the terms of the Settlement Agreement. The Settlement Agreement provides that, upon completion of these procedures, the parties will stipulate that the Arbitration and Complaint should be dismissed. In accordance with 17 CFR 229.601 (Item 601), the Company intends to include the Settlement Agreement in the Company's third quarter report on Form 10-Q.

The Company entered into the Settlement Agreement to avoid the costs, disruption and distraction of further litigation. In the second quarter accompanying condensed balance sheet as of 2024, management made some reductions in costs, but in order to continue the clinical development for the Company's lead product candidates, June 30, 2024, the Company must maintain reported a core group balance of scientists. $10.0 million for legal fees incurred but not yet paid that were included within accounts payable and an accrual of $4.8 million for accrued legal fees within accrued liabilities and other current liabilities. The Company is engaged in discussions with the law firms involved with this matter to arrange a reasonable payment plan with respect to those legal fees.

The Company continues to pursue a plan to obtain bridge financing through the issuance of up to $10.0 million in Secured Notes, Notes. Subsequent to the end of the second quarter of 2024, the Company issued an additional $3.6 1.8 million in Secured Notes, bringing the total issuance of which Secured Notes to $5.5 million. With the Settlement Agreement and imminent dismissal of the Arbitration, the attendant uncertainties for the outcome and additional complexities, as well as on-going legal costs of the dispute have been issued through lifted. As a result, management believes that in addition to the date secured note financing, other avenues of issuance of financing are now available to the condensed interim financial statements. Company. The Company has developed and is implementing its financing plan involving other capital-raising activities for equity investments which it intends to close by year-end. Management anticipates that this bridge financing, if fully subscribed, the capital obtained through these financings will allow the Company to reach such time as it can execute fund operations through to execution of its plans for business development transactions such as licenses, for non-core assets and capital-raising transactions, although there can be no assurance of this outcome for many reasons, including the uncertainties regarding the Company's ongoing arbitration proceedings with Altor/NantCell, as described in Note 8. outcome. In addition, to the bridge financing in the form of the sale of additional Secured Notes, other potential near-term financing plans may

---

include cooperative agreements for clinical trials and third-party collaboration funding. If the Company is not successful in raising additional capital, management has the intent and ability intends to revise its business plan and reduce costs. If such revisions are insufficient, the Company may have to curtail or cease operations.

The accompanying interim financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of the uncertainties described above.

The Company believes that substantial doubt exists regarding its ability to continue as a going concern for at least 12 months from the date of issuance of the Company's condensed interim financial statements, without additional funding or financial support. After considering management's plan for financing and funds raised that are probable to occur within one year, as well as that the Company expects to continue to incur losses from operations for the foreseeable future, management concluded that the substantial doubt that existed in its going concern analysis was not alleviated.

Summary of Significant Accounting Policies

Basis of Presentation

Unaudited Interim Financial Information

The accompanying unaudited condensed interim financial statements as of March 31, 2024 June 30, 2024 and for the three-month three- and six-month periods ended March 31, 2023 June 30, 2023 and 2024 have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial information and pursuant to Article 10 of Regulation S-X of the Securities Act of 1933, as amended (the "Securities Act"). Accordingly, they do not include all of the

information and notes required by U.S. GAAP for complete financial statements. These unaudited condensed interim financial statements include only normal and recurring adjustments that the Company believes are necessary to fairly state the Company's financial position and the results of its operations and cash flows. The results for the three-month period three- and six-month periods ended March 31, 2024 June 30, 2024 are not necessarily indicative of the results expected for the full fiscal year or any subsequent interim period. The condensed interim balance sheet at December 31, 2023 has been derived from the audited financial statements at that date but does not include all disclosures required by U.S. GAAP for complete financial statements. Because all of the disclosures required by U.S. GAAP for complete financial statements are not included herein, these unaudited condensed interim financial statements and the notes accompanying them should be read in conjunction with the Company's audited financial statements for the year ended December 31, 2023, which appear in the Company's Annual Report on Form 10-K for the year ended December 31, 2023, filed with the Securities and Exchange Commission (the "SEC") SEC on May 15, 2024 (the "Annual Report") and in other filings with the SEC.

Reclassification of Prior Period Presentation of Legal Expenses

Certain prior period amounts have been reclassified to distinguish between General and administrative expenses in the ordinary course of business and legal expenses incurred in connection with the arbitration and Settlement Agreement described in Notes 1. Reclassification of legal expenses incurred in connection with legal proceedings impacts the consolidated interim statements of operations. There is no effect on reporting results of operations from prior periods.

Revenue Recognition

The Company accounts for revenues in accordance with Accounting Standards Codification Topic ASC 606, Revenue from Contracts with Customers ("Topic 606"). To determine revenue recognition for arrangements that fall within the scope of Topic 606, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the Company satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that it will collect the consideration it is entitled to in exchange for the goods or services transferred to the customer.

At contract inception, the Company assesses the goods or services promised within each contract, determines those that are performance obligations, and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied. To date, the Company's revenues have been generated solely from transactions with Wugen. The Wugen License includes licenses of intellectual property, cost reimbursements, upfront signing fees, milestone payments and royalties on future licensee's product sales. In addition, the Company and Wugen have an agreement for supply of materials, from which the Company also recognizes revenues.

License Grants:

For out-licensing arrangements that include a grant of a license to the Company's intellectual property, the Company considers whether the license grant is distinct from the other performance obligations included in the arrangement. For licenses that are distinct, the Company recognizes revenues from nonrefundable, upfront payments and other consideration allocated to the license when the license term has begun and the Company has provided all necessary information regarding the underlying intellectual property to the customer, which generally occurs at or near the inception of the arrangement.

Milestone and Contingent Payments:

At the inception of the arrangement and at each reporting date thereafter, the Company assesses whether it should include any milestone and contingent payments or other forms of variable consideration in the transaction price using the most likely amount method. If it is probable that a significant reversal of cumulative revenue would not occur upon resolution of the uncertainty, the associated milestone value is included in the transaction price. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of each such milestone and any related constraint and, if necessary, adjusts its estimate of the overall transaction price. Since milestone and contingent payments may become payable to the Company upon the initiation of a clinical study or filing for or receipt of regulatory approval, the Company reviews the relevant facts and circumstances to determine when the Company should update the transaction price, which may occur before the triggering event. When the Company updates the transaction price for milestone and contingent payments, the Company allocates the changes in the total transaction price to each performance obligation in the agreement on the same basis as the initial allocation. Any such adjustments are recorded on a cumulative catch-up basis in the period of adjustment, which may result in recognizing revenue for previously satisfied performance obligations in such period. The Company's licensees will generally pay milestones payments subsequent to achievement of the triggering event.

Materials Supply:

The Company provides clinical and research grade materials so that licensees may develop products based on the licensed molecules. The Company plans to enter into commercialization supply agreements when licensees enter the commercial stage of their company. The amounts billed are recognized as revenue as the performance obligations are satisfied by the Company, once the Company determines that a contract exists.

On June 18, 2021, the Company entered into a master services agreement (“MSA”) for the supply of materials for clinical development of licensed products. On March 14, 2022, To meet all the criteria to qualify as a contract under Topic 606, the Company entered must enter into statements-of-work (“SOWs”) contemplated under the MSA for all current and historical purchases of clinical and research grade materials. The Company has determined that upon entering into the SOWs all requirements were met to qualify as a contract under Topic 606. The manufacturing of the clinical and research materials supplied by the Company each represents a single performance obligation that is satisfied over time. The Company recognizes revenue using an input method based on the costs incurred relative to the total expected cost, which determines the extent of the Company's progress toward completion. As part of the accounting for these arrangements, the Company must develop estimates and assumptions that require judgement to determine the progress towards completion. The Company reviews its estimate of the progress toward completion based on the best information available to recognize the cumulative progress toward completion as of the end of each reporting period, and makes revisions to such estimates, if facts and circumstances change during each reporting period.

For the three and six months ended March 31, 2024 June 30, 2023, the Company recognized $1.1 622,807 and $664,690 in revenue related to the sale of development supply materials to Wugen, respectively. For the three and six months ended June 30, 2024, the Company recognized $618,854 and $1.7 million in revenue related to sale of development supply materials. materials to Wugen, respectively.

Investments

The Company holds a minority interest in Wugen which is accounted for using the measurement alternative whereby the investment is recorded at cost less impairment, adjusted for observable price changes in orderly transactions for an identical or similar investment of the same investee. No impairment has been recognized. As of March 31, 2024 June 30, 2024 and December 31, 2023, the Company included $1.6 million for the investment in Wugen in Investments in the accompanying condensed interim balance sheets. The Company used its equity interest in Wugen to collateralize the Secured Notes. See Note 3. Debt, Net.

The Company invests excess cash in bills and notes issued by the U.S. Treasury which are classified as trading securities. As of December 31, 2023 and March 31, 2024, the Company had no Short-term investments.

Operating Leases

The Company determines if an arrangement is a lease at inception. Operating leases are included in Other assets, Accrued liabilities and other current liabilities, and Other liabilities on its condensed interim balance sheets. Operating lease Right of Use (“ROU”) assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As the Company’s leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at commencement date in determining the present value of future payments. The operating lease ROU asset also includes any lease payments made and excludes lease incentives and initial direct costs incurred. The Company has a lease agreement with lease and non-lease components, which are accounted for separately. For short-term leases with a term of one year or less, the Company uses the practical expedient and does not record an ROU asset or lease liability for such short-term leases.

Net Loss Per Share

Basic loss per share of common stock is computed by dividing net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during each period. Diluted loss per share of common stock includes the effect, if any, from the potential exercise of stock options and unvested shares of restricted stock, which would result in the issuance of incremental shares of common stock. For diluted net loss per share, the weighted-average number of shares of common stock is the same for basic net loss per share due to the fact that when a net loss exists, dilutive securities are not included in the calculation as the impact is anti-dilutive.

2. Accrued Liabilities and Other Current Liabilities

As of December 31, 2023, the Company had a balance of $2.6 million included in Accrued liabilities and other current liabilities in the audited balance sheet, consisting of $392,000 for construction expenses, $105,000 for manufacturing expenses, $1.1 million for legal fees, $262,000 for clinical expenses, $365,000 for bonus payable, $160,000 for salary expenses, $119,000 for the current portion of long-term debt, $28,500 for a lease liability and $68,500 for other liabilities.

As of March 31, 2024 June 30, 2024, the Company had a balance of $2.9 6.3 million included in Accrued liabilities and other current liabilities in the accompanying condensed interim balance sheet, consisting of $1.6 4.8 million for legal fees, $874,000 422,000 for construction in progress, $202,000 500,000 for manufacturing expenses, $139,000 for clinical expenses, $57,000 for bonus payable, $122,152 124,000 for the current portion of long-term debt and $102,000 152,000 for salary and benefits.

3. Debt, Net

Cogent Bank Loan

On August 15, 2022, the Company entered into a loan and security agreement (the "2022 Loan Agreement") with Cogent Bank, pursuant to which it received $6.5 million in proceeds to purchase a building that will become the Company's new headquarters. The loan is secured by a first priority lien on the building.

As of March 31, 2024 June 30, 2024, the Company had $6.4 6.3 million in principal outstanding in a loan under the 2022 Loan Agreement. The interest-only period was one year followed by 48 months of equal payments of principal and interest beginning on September 15, 2023 based on a 25-year amortization rate. The unamortized balance is due on August 15, 2027 (the "Maturity Date"), and bears interest at a fixed per annum rate equal to 5.75%. Upon the Maturity Date, a final payment of unamortized principal will be due. The Company is in compliance with all covenants as of March 31, 2024 June 30, 2024. The Company has the option to prepay the outstanding balance of the loan prior to the Maturity Date without penalty.

As of March 31, 2024 June 30, 2024, the current portion of $122,152 123,956 is included in Accrued liabilities and other current liabilities, and the noncurrent portion of $6.4 6.3 million is included in Debt, net in the accompanying condensed interim balance sheet.

Senior Secured Notes

On March 28, 2024 March 31, 2024, the Company entered into the a Note Purchase Agreement with the Purchasers (as defined in the Note Purchase Agreement), pursuant to which the Company may issue Secured Notes secured notes up to an aggregate principal amount up to $10.0 million and issued ("Secured Notes").

As of June 30, 2024, the Company received $2.0 3.7 million in funding from the issuance of Secured Notes, to certain accredited investors. Secured Notes were issued to which is included within Debt, Net on the following investors: accompanying condensed interim balance sheet. Investors included Dr. Hing C. Wong, Founder and Chief Executive Officer, who invested $620,000 2.2; million; Rebecca Byam, Chief Financial Officer, who invested $220,000; Scott T. Garrett, the Chairman of the Company's board of directors, who invested $90,000; and Gary M. Winer, a member of our Board board of Directors, directors, who invested $50,000 60,000, as well as unrelated parties.

As of March 31, 2024 June 30, 2024, the Company received $1.8 million in cash payments for the Secured Notes. A check payment of $250,000, that has since cleared, is included existing investors in Secured note receivable in the accompanying condensed interim balance sheet.

The Notes unanimously agreed to an Amended and Restated Note Purchase Agreement sets forth and related documents ("Amended and Restated Note Purchase Agreement"). Under the terms of the Amended and conditions, including representations and warranties, for our issuance and sale of Restated Note Purchase Agreement, the Secured Notes continue to the Purchasers. The indebtedness for the Secured Notes is included in Debt, net in the accompanying condensed interim balance sheet.

The Senior Notes bear interest at a rate of 9% per annum, payable quarterly in arrears, and arrears. The Secured Notes will mature on March 27, August 30, 2026 (the "Maturity Date"), on which date the principal balance, and accrued but unpaid interest and other amounts owed under the Secured Notes terms of the Amended and Restated Note Purchase Agreement shall be due and payable. If the Company elects to prepay the Senior Notes prior to the Maturity Date, there is a 5% prepayment penalty. As security for the Secured Notes, the The Company pledged its equity ownership interest in Wugen, which was equivalent to a 5.6% ownership stake in that company as of March 31, 2024 June 30, 2024 ("Pledged Collateral"). The Pledged Collateral will be held and released according to the terms of the Escrow Agreement, as security for the Secured Notes.

If the Company elects to prepay the Senior Notes on or before December 31, 2024, there is a 5% prepayment penalty. The Secured Notes have a Mandatory Prepayment provision, according to which the Company is required to prepay the Secured Notes before the Maturity Date under certain circumstances. In the event of a Mandatory Prepayment, Secured Notes may receive a bonus payment based on the gross proceeds of the sale of the Pledged Collateral. If a bonus payment is paid, then there is no prepayment penalty. The Amended and Restated Note Purchase Agreement also contains default provisions, according to which, following an event of default, the

---

Company shall may be required to distribute the Pledged Collateral to the Purchasers on a pro rata basis based on a $10.0 million issuance of Secured Notes, in full satisfaction of the indebtedness evidenced by the Secured Notes.

Amended terms of the Amended and Restated Note Purchase Agreement include a conversion feature, which gives the holder a right to convert the outstanding indebtedness to shares of the Company's common stock under certain conditions, subject to final documentation. The holders of the Secured Notes have no obligation to exercise the conversion option, however, if the holders of the majority of principal of Secured Notes outstanding choose to do so, then all the holders of Secured Notes must do so.

4. Preferred Stock

As of December 31, 2023 and March 31, 2024 June 30, 2024, the Company had 10,000,000 shares of preferred stock authorized and no such shares issued.

5. Net Loss Per Share

The following table summarizes the computation of the basic and diluted net loss per share:

	Three Months Ended March 31,		Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2024	2023	2024	2023	2024
Numerator:						
Net loss	$ (5,070,686)	$ (7,468,061)	$ (4,304,420)	$ (15,280,191)	$ (9,375,106)	$ (22,748,253)
Denominator:						
Weighted-average common shares outstanding	35,883,779	37,223,588	35,910,669	37,823,394	35,897,224	37,523,491
Net loss per share, basic and diluted	$ (0.14)	$ (0.20)	$ (0.12)	$ (0.40)	$ (0.26)	$ (0.61)

The following table summarizes the outstanding potentially dilutive securities that have been excluded in the calculation of diluted net loss per share because their inclusion would be anti-dilutive:

	At March 31,		At June 30,	
	2023	2024	2023	2024
Common stock options	1,856,463	1,764,766	1,873,806	1,796,065
Potentially dilutive securities	1,856,463	1,764,766	1,873,806	1,796,065

6. Fair Value of Financial Instruments

The carrying amount of the Company's financial instruments, including cash and cash equivalents, accounts receivable, prepaid expenses and other current assets, U.S. government-backed securities with maturity dates up to one year, accounts payable and accrued liabilities, approximate fair value due to their short-term maturities.

Money market funds included in cash and cash equivalents and U.S. government-backed securities are measured at fair value based on quoted prices in active markets, which are considered Level 1 inputs. No transfers between levels occurred during the periods presented. The following table presents the Company's assets, which were measured at fair value at December 31, 2023 and March 31, 2024 June 30, 2024:

	At December 31, 2023:			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 1,626,129	$ —	$ —	$ 1,626,129
Total	$ 1,626,129	$ —	$ —	$ 1,626,129

	At March 31, 2024:			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 703,325	$ —	$ —	$ 703,325
Total	$ 703,325	$ —	$ —	$ 703,325

	At June 30, 2024:			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 82,723	$ —	$ —	$ 82,723
Total	$ 82,723	$ —	$ —	$ 82,723

7. Income Taxes

The Company computes its quarterly income tax expense/(benefit) by using a forecasted annual effective tax rate and adjusts for any discrete items arising during the quarter. The Company did not have a provision for income taxes (current or deferred tax

expense) as of December 31, 2023 and March 31, 2024 June 30, 2024. The Company will continue to maintain a 100% valuation allowance on total deferred tax assets. The Company believes it is more likely than not that the related deferred tax assets will not be realized. As a result, the Company's effective tax rate will remain at 0.00% because no items either estimated or discrete items would impact the tax provision.

8. Commitments and Contingencies

Operating Leases

The Company has operating leases entered a new one-year lease for approximately 12,250 square feet of space located in Miramar, Florida. The Florida, which was covered by two prior operating leases have that had atwo-year term which that commenced on March 1, 2022 and terminated ended on February 29, 2024. Upon the commencement of the those leases, the Company used its incremental borrowing rate of 6.0% to determine the amounts to recognize for a ROU asset and a lease liability. The Company entered a new one-year lease for the same location which commenced on March 1, 2024 and terminates on February 28, 2025. If a lease has a term that is 12 months or less in duration, the lease qualifies for a short-term lease exemption under ASC 842-20-25-2. The Company elected to take advantage of this exemption, and it will account for this lease on a straight-line basis over the lease term and will not recognize a ROU asset and a lease liability as a result. The remaining lease payments under the new short-term lease are $251,921 183,216. The Company has no obligations under finance financing leases.

The components of the lease expense for the three months ended March 31, 2024 were as follows:

	For the Three Months Ended March 31, 2024
Operating lease cost	$ 28,275

Supplemental cash flow information related to the Company's operating lease was as follows:

	For the Three Months Ended March 31, 2024
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows	$ 28,793
Right-of-use assets obtained in exchange for lease obligations:	
Operating lease	$ 28,061

For the three months ended March 31, 2023 June 30, 2023 and 2024, rent expense recognized by the Company was $43,950 40,875 and $47,838 49,524, respectively, of which $22,212 and $23,453 25,936, respectively, are included in research and development in the accompanying condensed interim statements of operations operations. For the six months ended June 30, 2023 and 2024, rent expense recognized by the Company was $, 84,825 and $96,907, respectively, of which $44,424 and $49,389, respectively are included in research and development in the accompanying condensed interim statements of operations.

Contractual Commitments

The Company has commitments with a third-party manufacturing organization to supply us with clinical grade materials. As of March 31, 2024 June 30, 2024, it is under contract for obligations of $649,517 163,750 it expects to pay during the year ending December 31, 2024. As of December 31, 2023 and March 31, 2024 June 30, 2024, the Company had commitments to fund $4.4 million and $2.8 2.6 million, respectively, in construction costs related to the buildout of its new headquarters and manufacturing facility.

Project Financing

On January 10, 2024 (the "Termination Date"), the Company exercised its right to terminate its credit agreement (the "Credit Agreement"), dated April 21, 2023, with Prime Capital Ventures, LLC (the "Lender"), as permitted under the terms of the Credit Agreement. The termination followed repeated delays in funding and related concerns. There were no borrowings under the Credit Agreement as of the Termination Date, and the Company did not incur any penalties as a result of such termination under the terms of the Agreement. Upon exercising its right to terminate the Agreement, the Company was entitled to receive the return of the $5.3 million that the Company placed on deposit to establish an interest reserve account with the Lender. In the three months ended March 31, 2024, However, the Lender defaulted on its obligation to return the interest reserve deposit. Given the uncertainty of when or if funds will be

recovered from the Lender, the Company recognized a reserve for a credit loss for $5.3 million as of December 31, 2023.

The Company intends to pursue all available remedies to recover these funds, including legal actions, receivership and insurance.

Nonoperating Loss

As reported in the Company's Form 8-K filed on May 1, 2024 with the SEC, the Company became aware that it was the victim of a criminal scheme involving the impersonation of a purchaser upon the default on a legally binding commitment to purchase $8.0 million of secured notes from the Company. The scheme resulted in the misdirection of approximately $1.3 million held in Company accounts to a fraudulent account controlled by a third party. The Company is pursuing all available remedies to recover this loss. Given the limited success that these efforts have had to date for the recovery of funds, the Company recognized a loss of $1.3 million in the three- and six-month periods ended June 30, 2024.

Legal

Legal Proceedings

From time to time, the Company is a party to or otherwise involved in legal proceedings, including suits, assessments, regulatory actions and investigations generally arising out of the normal course of business. In addition, the Company enters into agreements that may include indemnification provisions, pursuant to which the Company agrees to indemnify, hold harmless and defend the indemnified parties for losses suffered or incurred by the indemnified party. When the Company believes that the outcome of such a matter will result in a liability that is probable to be incurred and result in a potential loss, or range of loss, that can be reasonably estimated, the Company will accrue a liability and make the appropriate disclosure in the footnotes to the financial statements.

Arbitration, Settlement and General Release

On December 23, 2022, Altor BioScience, LLC and NantCell, Inc. ("Altor/NantCell") initiated an arbitration against Dr. Hing C. Wong, the Company's Founder and Chief Executive Officer, in California alleging breach of contract and fiduciary duty, among other claims. On that same date, Altor/NantCell filed a lawsuit against the Company in federal court alleging misappropriation of trade secrets, inducement of breach of contract and breach of fiduciary duty, among other claims against the Company. On January 31, 2023, the Company filed a motion to compel arbitration, a motion for the stay of the litigation, and a motion to dismiss the complaint ("motion to compel"). On April 18, 2023, the U.S. District Court for the Southern District of Florida (the "Court") heard oral argument on the Company's motion to compel and ordered the parties to provide supplemental briefing by April 28, 2023. Before the Court ruled on the Company's motion to compel, on April 26, 2023, the parties stipulated that Altor/NantCell's action against the Company would be consolidated with the Altor/NantCell arbitration demand against Dr. Wong. On April 27, 2023, the Court approved the parties' stipulation and ordered the parties to arbitration. On May 1, 2023, Altor/NantCell filed a demand against the Company before JAMS. On May 3, 2023, Altor/NantCell dismissed the federal court action without prejudice and the Court ordered the case dismissed without prejudice and closed the case. Altor/NantCell's proceeding against the Company is now proceeding proceeded in arbitration before JAMS and is consolidated with the arbitration Altor/NantCell initiated against Dr. Wong. The arbitration hearing is scheduled to begin on May 20, 2024 Wong (the "Arbitration").

In addition, on On March 26, 2024, Altor/NantCell filed a complaint (the "Complaint") against the Company in the Chancery Court of the State of Delaware for the contribution of legal fees and expenses advanced to Dr. Wong, our founder Wong.

As reported in the Company's Form 8-K filed on July 18, 2024 and chief executive officer, described in connection with the arbitration discussed above. Prior to the filing Part II, Item 1. – "Legal Proceedings" below, as of the Complaint, Altor/NantCell had previously sought advancement from July 13, 2024, the Company and Dr. Hing C. Wong, the Company agreed Company's Founder and Chief Executive Officer, entered into a confidential Settlement Agreement and Release (the "Settlement Agreement") with Altor BioScience, LLC ("Altor"), NantCell, Inc. ("NantCell"), and ImmunityBio, Inc. (the parent of Altor and NantCell, together with Altor and NantCell, "ImmunityBio"), to advance 50% of Dr. Wong's legal fees going forward from December 2023. On January 8, 2024, Altor/ resolve the previously disclosed Arbitration before JAMS brought by Altor and NantCell reserved their right to pursue contribution as well as the Complaint Altor filed against the Company for 50% in the Chancery Court of the amount Altor/NantCell sent State of Delaware for advancement the contribution of expenses for Dr. Wong. In the Complaint, Altor/NantCell seek 50% of the legal fees they have already and expenses advanced to Dr. Wong, a declaration that Wong. The Settlement Agreement includes mutual general releases by and among the Company has an obligation parties thereto. No party is required to contribute 50% of make any monetary payments to any other party or person under the advancement of Dr. Wong's expenses including 50% of Dr. Wong's Settlement Agreement and each party will bear its own expenses incurred in connection with the arbitration through final resolution matter. The Company is completing procedures required to be in compliance with the terms of the matter, Settlement Agreement. The Settlement Agreement provides that, upon completion of these procedures, the parties will stipulate that the Arbitration and costs and fees Complaint should be dismissed. In accordance with 17 CFR 229.601 (Item 601), the Company intends to include the Settlement Agreement in bringing this action. the Company's third quarter report on Form 10-Q.

Other Matters

Prior to the date

As of issuance, June 30, 2024, certain subcontractors filed mechanics liens related to unpaid invoices issued in connection with the Company's construction of its new manufacturing facilities and upgraded research laboratories. The Company continues to seek a lender to provide the financing required to complete this the construction project.

Inflationary Cost Environment, Banking Crisis, Supply Chain Disruption and the Macroeconomic Environment

The Company's operations have been affected by many headwinds, including inflationary pressures, rising interest rates, ongoing global supply chain disruptions resulting from increased geopolitical tensions such as the war in the Middle East, the conflict between Russia and Ukraine, China-Taiwan relations, financial market volatility and currency movements. The Company has been impacted by inflation, and may continue to be so, when procuring materials required for the buildout of our new headquarters, the costs for recruiting and retaining employees and other employee-related costs. Management employs a number of strategies to effectively navigate these issues, including product redesign, alternate sourcing, and establishing contingencies in budgeting and timelines. Future developments in these and other areas present material uncertainty and risk with respect to the Company's clinical trials, IND-enabling activities, buildout of the new headquarters, as well as the Company's financial condition and results of operations. The extent and duration of such events and conditions, and resulting disruptions to our operations, are highly unpredictable.

---

9. Subsequent Events

Subsequent events have been evaluated through the date the financial statements were filed. In addition to the required recognition or disclosure disclosed in the footnotes herein, there were also the following subsequent events after the reporting date:

Subsequent to the end of the second quarter of 2024, the Company issued an additional $1.8 million in Secured Notes. On May 13, 2024 July 2, 2024, the Company issued an additional $1.5 million in Secured Notes. As of August 5, 2024, the Company issued $250,000 in Secured Notes, including an investment of $75,000 from Dr. Wong; $50,000 from Mr. Garrett; $25,000 from Rick S. Greene, a member of the board of directors; and $25,000 from Lee Flowers, Senior Vice President of Business Development.

As reported in the Company's Form 8-K filed on July 18, 2024 and further described in Part II, Item 1. – "Legal Proceedings," as of July 13, 2024, the Company and Dr. Hing C. Wong, the Company's Founder and Chief Executive Officer, purchased an additional $1.6 million entered into a confidential Settlement Agreement and Release with Altor BioScience, LLC ("Altor"), NantCell, Inc. ("NantCell"), and ImmunityBio, Inc. (the parent of Altor and NantCell, to resolve the previously disclosed arbitration before JAMS brought by Altor and NantCell as well as a complaint Altor filed against the Company in Secured Notes, bringing his total purchases of Secured Notes to $2.2 million. The Board of Directors and the Audit Committee Chancery Court of the Board State of Directors reviewed Delaware for the transaction under contribution of legal fees and expenses advanced to Dr. Wong ("Complaint"). In accordance with 17 CFR 229.601 (Item 601), the Company intends to include the Settlement Agreement in the Company's policy for Related Party Transactions (the "Policy" third quarter report on Form 10-Q.

As reported on the Company's Form 8-K filed on August 12, 2024, the Company received written notices from the Listing Qualifications Staff ("Staff") and determined of the Nasdaq Stock Market LLC ("Nasdaq") notifying the Company that the transaction was it is not in compliance with Nasdaq Listing Rules. The notifications from Nasdaq do not impact the Policy. listing of the Company's common stock at this time. The Company received a notice that it was not in compliance with Nasdaq Listing Rules for the $

50.0 million market value listed securities requirement as of June 17, 2024; the minimum bid price as of August 6, 2024; and the $15.0 million market value of publicly held shares requirement as of August 8, 2024. The Company has 180 days from the respective date of notice to address each deficiency. While the Company is exercising diligent efforts to maintain the listing of its common stock on Nasdaq, there can be no assurance that the Company will be able to regain or maintain compliance with the applicable continued listing standards set forth in the Nasdaq Listing Rules.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with (i) our unaudited condensed interim financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and (ii) our audited financial statements and related notes and the discussion under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations" for the fiscal year ended December 31, 2023 included in the Annual Report on

Form 10-K filed with the U.S. Securities and Exchange Commission (the "SEC") on May 15, 2024 (the "Annual Report"). Our historical results are not necessarily indicative of the results that may be expected for any period in the future. Unless the context requires otherwise, references in this Quarterly Report on Form 10-Q to the "Company," "HCW Biologics," "HCWB", "we," "us" and "our" refer to HCW Biologics Inc.

Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical facts contained in this quarterly report, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, timing and likelihood of success of our clinical trials, plans and objectives of management for future operations, adequacy of our cash resources and working capital, future economic conditions or performance, and future results of anticipated products, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "anticipate," "could," "intend," "target," "project," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this Quarterly Report on Form 10-Q are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those anticipated in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in this report in Part II, Item 1A -"Risk Factors," in this Quarterly Report on Form 10-Q and in other filings we make with the SEC from time to time. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. These forward-looking statements speak only as of the date hereof. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

Overview

HCW Biologics Inc. is a clinical-stage biopharmaceutical company focused on discovering and developing novel immunotherapies to lengthen health span by disrupting the link between chronic, low-grade inflammation and age-related diseases. We believe age-related, chronic, low-grade inflammation, or "inflammaging," is a significant contributing factor to several diseases and conditions, such as cancer, cardiovascular disease, diabetes, neurodegenerative diseases, and autoimmune diseases. The induction and retention of low-grade inflammation in an aging human body is mainly the result of the accumulation of non-proliferative but metabolically active senescent cells, which can also be caused by persistent activation of protein complexes, known as inflammasomes, in innate immune cells. These two elements share common mechanisms in promoting secretion of proinflammatory proteins and in many cases interact to drive senescence, and thus, inflammaging. Our novel approach is to reduce senescent cells and eliminate the proinflammatory factors they secrete systemically through multiple pathways. We believe our approach has the potential to fundamentally change the treatment of age-related diseases.

Accumulation of senescent cells with a senescence-associated proinflammatory factors has been implicated as a major source of chronic sterile inflammation leading to many aging-related pathologies. The key to the HCWB our immunotherapeutic approach is elimination of senescent cells and the proinflammatory factors they secrete. Our lead most advanced product candidates address include three immunotherapeutic drugs we created with the two primary processes that promote chronic inflammation, as explained below: proprietary TOBI™ (Tissue factOr-Based fusIon) drug discovery platform:

HCW9218. This is a clinical-stage molecule currently being evaluated in a Phase 2 clinical study in patients with ovarian cancer with the University of Pittsburgh Medical Center as sponsor. For this study, HCW9218 will be administered in combination with neoadjuvant chemotherapy as a first-line treatment with neoadjuvant chemotherapy alone serving as a control arm. Subcutaneous administration of our clinical-stage, lead drug candidate, HCW9218 activates NK cells, innate lymphoid group-1, and $CD8^+$ T cells, and neutralizes TGF-β. This bifunctionality gives HCW9218 the ability to reduce is a bifunctional molecule that can impact senescence by reducing senescent cells

---

as well as eliminate senescence-associated (i.e., senescent-cell-reducing effect) and eliminating the proinflammatory factors and function as a they secrete (i.e., senomorphic agent. effect). Our future HCW9218 is the basis program will focus on ovarian cancer for our cancer program. oncology program, with the primary focus on other senescence-associated diseases and conditions beyond cancer.

HCW9302. This is a molecule currently completing IND-enabling activities. Subcutaneous administration of our preclinical-stage, lead drug candidate, HCW9302 is designed to activate and expand T_{reg} cells to reduce senescence by suppressing the activity of inflammasome-bearing cells and the inflammatory factors which they secrete. HCW9302 is the basis for our autoimmune program. We expect to file our IND application at the end of the third quarter in 2024. We are also exploring the utility of HCW9302 for other aging-related diseases, such as neurodegenerative diseases, in relevant animal models. Our plan is to identify the Recommended Phase 2 Dose ("RP2D") in patients based on a Phase 1b clinical trial to evaluate HCW9302 in an autoimmune indication, then expand to a neurodegenerative disease indication in a Phase 2 trial utilizing this RP2D.

HCW9206. This preclinical molecule is beginning IND-enabling activities. It has a unique design that results in a multi-functional compound with three powerful cytokines: IL-7, IL-15, and IL-21. Subcutaneous administration of HCW9206 results in T cell proliferation and activation, enhances NK cell cytotoxicity, and improves overall immune surveillance against pathogens or tumors. HCW9206 is being considered to be the basis of our future oncology program. *Ex vivo* rights have been licensed to Wugen.

HCW9201. This is a clinical-stage molecule currently being evaluated by Wugen in a Phase 1 clinical trial in Acute Myeloid Leukemia, as a cell-based treatment. We have not yet initiated any clinical trials to evaluate HCW9201 in other indications. We retain the rights for administration by subcutaneous injection. HCW9201 has a unique design that results in a multi-functional compound with three powerful cytokines, IL-12, IL-15, and IL-18, in a single protein complex. We are exploring intra-tumoral injection of HCW9201 for treatment of cancer.

Business Highlights

Implementation of Arbitration Settlement Agreement

The Settlement Agreement among the Company, Dr. Wong, Altor, NantCell and ImmunityBio, which was entered into as of July 13, 2024, and is described in Part II, Item 1. – Legal Proceedings" below, eliminated the uncertainty of the outcome of the previously disclosed arbitration proceedings and provided clarity for the future direction and emphasis of our clinical development strategy.

The settlement involved intellectual property the Company developed, including the proprietary TOBI™ drug discovery platform and its unique tissue-factor scaffold used to create protein-fusion molecules that include several elements, such as multiple protein targets, including cytokines, single-chain antibodies, and ligands, as well as proprietary TOBI™-based molecules. The primary molecule involved in the settlement was HCW9218, a bi-functional immunotherapeutic designed to with the cytokine IL-15, known to rejuvenate the immune system and reduce senescence, as well as a "trap" or neutralize TGF-β, a powerful cytokine that drives immunosuppressive activity. HCW9218 had been evaluated in two initial-stage clinical studies in cancer indications.

One of the benefits of the Settlement Agreement is that the Company now has a clear path for the future, and the TOBI™-based product candidates and indications that will be part of our clinical development strategy. We are in the process of reassessing our clinical assets and will make some adjustments to our definition of the indications and markets that will be our core focus, but we remain committed to developing immunotherapeutic treatments for age-related diseases, especially cancer.

We will need to make some adjustments with respect to the development of TOBI™-based molecules to treat cancer indications, in particular, with respect to our lead product candidate, HCW9218, and other derivative molecules designed with TGF-β traps. The TGF-β trap is designed to neutralize the immunosuppressive nature of TGF-β, but there are other approaches to do so. Under the Settlement Agreement, we retain the non-exclusive rights related to the clinical development of HCW9218 for the treatment of ovarian cancer using HCW9218 in combination with neoadjuvant chemotherapy, as well as the exclusive right to clinical development of HCW9218 for the treatment of all indications outside of oncology. We retain the rights for HCW9206, a protein-fusion molecule designed with IL-7, IL-21 and IL-15 anchored to the TOBI™ platform. We have accelerated the development of this molecule since it has shown potential for the treatment of cancer in preclinical research conducted by the Company as well as collaborators at leading research institutions. Because of its central role in the regulation of conventional T cell homeostasis, including proliferation, survival, and memory formation without eliciting autoimmunity, IL-7 has been considered from early on as a key factor in immunotherapeutics. In our preclinical studies, HCW9206 has exhibited many of the properties to reduce senescent cells and the proinflammatory factors they secrete that are characteristic of HCW9218, without relying on a TGF-β trap in its design. For our autoimmune disease program based on HCW9302, we do not foresee the need to make any significant adjustments to the current program, and we remain on track to file an IND application to evaluate HCW9302 for treatment of autoimmune disease in the third quarter of 2024. In addition, we retain unrestricted rights with respect to the creation of new compounds based on the TOBI™ discovery platform, so long as they do not include a TGF-β domain.

Financing

- The Company raised $6.1 million to date Capital-raising activities provided $8.0 million in 2024, from consisting of the following:
  - $2.5 million in a private placement of common stock in which we sold an aggregate of 1,785,718 shares to certain officers and members of the Company's board directors at a purchase price of $1.40 per share.
  - $5.5 million from the issuance of senior secured notes ("Secured Notes"). The Company is authorized to raise up to $10.0 million in Secured Notes and will contir to seek investors for the remaining $4.5 million of Secured Notes available for issuance.

- Management financing We have launched our plans are to raise a bridge expand our capital-raising activities, including financing through the issuance of up to an aggr of $10.0 million of Secured Notes, of which $3.6 million have been issued to date in 2024. If we succeed, we expect the bridge financing will enable the Company to continue with its clinical development plans, until such time direct investment as we can complete planned well as business development transactions, such as license licensing and collaborative agreements.
- The Company is in the process of reassessing our product candidates to determine which compounds, indications and markets will be considered "core assets," We w continue to seek business development transaction for our non-core assets through licenses for rights to certain compounds, disease indications and capital raising transactions. markets.
- As of March 31, 2024 June 30, 2024, we believe that substantial doubt exists regarding our ability to continue as a going concern for at least 12 months from the date issuance, without additional funding or financial support. After giving consideration to elements of our financing plan that were probable to occur within a year of the da issuance, we concluded that substantial doubt was not alleviated in the going concern analysis.
- We have received written notices from the Listing Qualifications Staff of the Nasdaq Stock Market LLC ("Nasdaq") notifying us that we are not in compliance with conti listing requirements on the Nasdaq Global Market for the market value of listed securities as of June 17, 2024; minimum bid price as of August 6, 2024; and the marke value of publicly held shares as of August 8, 2024. Under Nasdaq Listing Rules, the Company has a period of 180 calendar days from the date of notice in which to re compliance. We intend to take all reasonable measures available to us to regain compliance with the continued listing requirements for the Nasdaq Global Market.

Clinical Development

- The Phase 1 clinical trial to evaluate HCW9218 in solid tumors and the Phase 1b clinical trial to evaluate HCW9218 in pancreatic cancer were completed in February In the Phase 1 study, over 70% of patients with ovarian cancer (5/7) showed evidence of stable disease. In the Phase 1b study, 13% (2/15) of patients who participate the study showed evidence of stable disease. The studies met the primary objective to determine a recommended Phase 2 dose ("RP2D").
- In February 2024, we entered into There is an agreement with University of Pittsburgh Medical Center ("UPMC") to conduct an ongoing Investigator-sponsored Phase clinical trial to evaluate HCW9218 in patients with metastatic advanced stage ovarian cancer in combination with neoadjuvant chemotherapy. Patient enrollment is exp to begin in the second half of 2024.
- We intend modify the protocol for a randomized Phase 2 clinical trial led chemotherapy, sponsored by the NCI, operating under our existing CRADA, to evaluate HCW in the treatment University of advanced pancreatic cancer in combination with standard-of-care chemotherapy. All five clinical sites from the Phase 1b portion of this st expect to continue to participate in the Phase 2 study. Pittsburgh Medical Center. (NCT05145569)
- In the coming year, after finalizing the supply agreement with ImmunityBio, we are considering expanding our clinical intend to conduct investigative studies to other ag related indications evaluate HCW9218 in senescence-associated diseases and disorders beyond cancer, some of which may be secondary endpoints of studies in can indications. We are focused on senescent cell associated skin disorders. cancer.
- We are preparing an in the final stages of completing the IND application to evaluate HCW9302 in an autoimmune disease, which we plan to submit in by the end of the third quarter of 2024. There can be no assurance that the FDA will authorize us to initiate our planned clinical trials on a timely basis, or at all. In the event we do not receive feedback on a timely basis, or we are required to change the design of our clinical protocol or address other feedback, clinical development of our products would be delayed and our costs may increase.

- In June 2024, a scientific paper authored by our scientific research team led by Dr. Wong was published in the peer-reviewed journal, Cancer Immunology, Immunothe entitled, "A 'Prime and Expand' Strategy Using Multifunctional Fusion Proteins to Generate Memory-Like NK Cells for Cell Therapy." The paper features HCW9206 an highlights that the "prime and expand" strategy represents a simple feeder cell-free approach to streamline manufacturing of clinical-grade Memory-Like NK cells to su multidose and off-the-shelf Adoptive Cellular Therapy. Rights to develop cell-based therapies based on HCW206 is licensed to Wugen.

Trends and Uncertainties

Inflationary Cost Environment, Banking Crisis, Supply Chain Disruption and the Macroeconomic Environment

Our operations have been affected by many headwinds, including inflationary pressures, rising interest rates, ongoing global supply chain disruptions resulting from increased geopolitical tensions such as the war between Russia and Ukraine, the war in the Middle East, China-Taiwan relations, financial market volatility and currency movements. These headwinds, specifically the supply chain disruptions, have adversely impacted our ability to procure certain services and materials, which in some cases impacts the cost and timing of clinical trials and IND-enabling activities. In addition, we have been impacted by inflation when procuring materials required for the buildout of our new headquarters, the costs for recruiting and retaining employees and other employee-related costs. Further, rising interest rates have also increased borrowing costs. The Company

uses a number of strategies to effectively navigate these issues, including product redesign, alternate sourcing, and establishing contingencies in budgeting and timelines. However, the extent and duration of such events and conditions, and resulting disruptions to our operations, are highly unpredictable.

For discussion of risks related to potential impacts of supply chain, inflation, geopolitical and macroeconomic challenges on our operations, business results and financial condition, see Part II, Item 1A. - “Risk Factors” in the Company’s Annual Report.

Components of our Results of Operation

Revenues

We have no products approved for commercial sale and have not generated any revenue from commercial product sales of internally-developed immunotherapeutic products for the treatment of cancer and other age-related diseases. The principal source of our revenues to date have been generated from our Wugen License and Master Services Agreement (the “MSA”) with Wugen. See Note 1 to our condensed interim financial statements included elsewhere in this Quarterly Report for these definitions and more information.

We derive revenue from a license agreement granting rights to Wugen to further develop and commercialize products based on two of our internally-developed molecules. Consideration under our contract included a nonrefundable upfront payment, development, regulatory and commercial milestones, and royalties based on net sales of approved products. Additionally, HCW Biologics retained manufacturing rights and has agreed to provide Wugen with clinical and research grade materials for clinical development and commercialization of licensed products under separate agreements. We assessed which activities in the Wugen License should be considered distinct performance obligations that should be accounted for separately. We develop assumptions that require judgement to determine whether the license to our intellectual property is distinct from the research and development services or participation in activities under the Wugen License.

Performance obligations relating to the granting a license and delivery of licensed product and R&D know-how were satisfied when transferred upon the execution of the Wugen License on December 24, 2020. The Company recognized revenue for the related consideration at a point in time. The revenue recognized from a transaction to supply clinical and research grade materials entered into under the MSA and covered by a Statement of Work, (“SOW”), represents one performance obligation that is satisfied over time. The Company recognizes revenue generated for supply of material for clinical development using an input method based on the costs incurred relative to the total expected cost, which determines the extent of the Company’s progress toward completion.

Operating Expenses

Our operating expenses are reported as research and development expenses and general and administrative expenses.

Research and Development

Our research and development expenses consist primarily of costs incurred for the development of our product candidates, which include:

- Employee-related expenses, including salaries, benefits, and stock-based compensation expense;
- Expenses related to manufacturing and materials, consisting primarily of expenses incurred primarily in connection with CMOs, which produce cGMP materials for clinical trials on our behalf;
- Expenses associated with preclinical activities, including research and development and other IND-enabling activities;
- Expenses incurred in connection with clinical trials; and

- Other expenses, such as facilities-related expenses, direct depreciation costs for capitalized scientific equipment, and allocation for overhead.

We expense research and development costs as they are incurred. Costs for contract manufacturing are recognized based on an evaluation of the progress to completion of specific tasks using information provided to us by our vendors. Payments for these activities are based on the terms of the agreement, and the pattern of payments for

goods and services will change depending on the material. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses and expensed as the related goods are delivered or the services are performed.

We expect research and development expenses to increase substantially for the foreseeable future as we continue the development of our product candidates. We cannot reasonably determine the nature, timing, and costs of the efforts that will be necessary to complete the development of, and obtain regulatory approval for, any of our product candidates. Product candidates in later stages of development generally have higher development costs than those in earlier stages. See “Risk Factors -- Risks Related to the Development and Clinical Testing of Our Product Candidates,” in our Annual Report for a discussion of some of the risks and uncertainties associated with the development and commercialization of our product candidates. Any changes in the outcome of any of these risks and uncertainties with respect to the development of our product candidates in preclinical and clinical development could mean a significant change in the costs and timing associated with the development of these product candidates. For example, if the FDA or another regulatory authority were to delay our planned start of clinical trials or require us to conduct clinical trials or other testing beyond those that we currently expect or if we experience significant delays in enrollment in any of our planned clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development of that product candidate.

General and Administrative Expenses

General and administrative expenses consist primarily of employee-related expenses, including salaries, related benefits, and stock-based compensation expense for employees in the executive, legal, finance and accounting, human resources, and other administrative functions. General and administrative expenses also include third-party costs such as insurance costs, fees for professional services, such as legal fees in the ordinary course of business, auditing and tax services, facilities administrative costs, and other expenses.

During the period ended December 31, 2022, Altor/NantCell, a former employer of Dr. Hing C. Wong, our Founder and Chief Executive Officer, initiated legal proceedings against Dr. Wong and the Company. On April 26, 2023, the parties stipulated that Altor/NantCell’s action against the Company would be consolidated with the Altor/NantCell arbitration demand against Dr. Wong. On April 27, 2023, the U.S. District Court for the Southern District of Florida (the “Court”) with jurisdiction over lawsuit against the Company approved the parties’ stipulation and ordered the parties to arbitration. On May 1, 2023, Altor/NantCell filed a demand against the Company before JAMS. On May 3, 2023, Altor/NantCell dismissed the federal court action without prejudice and the Court ordered the case dismissed without prejudice and closed the case. Altor/NantCell's proceeding against the Company is now proceeding in arbitration before JAMS and is consolidated with the arbitration Altor/NantCell initiated against Dr. Wong. The arbitration hearing is scheduled to begin on May 20, 2024. In connection with claims brought against Dr. Wong, Altor/NantCell has advancement obligations to him for claims brought against him and is currently advancing half of Dr. Wong’s legal fees while the Company advances the other half of Dr. Wong’s legal fees; however, Altor/NantCell is seeking reimbursement of all the legal fees and expenses it has advanced to Dr. Wong. The Company also has incurred legal expenses on its own behalf in the period ended March 31, 2024, and we expect to continue to incur material costs and expenses in connection with defending the Company in the foregoing legal matters through the third quarter of 2024.

We expect general and administrative expenses incurred in the normal course of business for other purposes, such as costs for recruitment and retention of personnel, service fees for consultants, advisors and accountants, as well as costs to comply with government regulations, corporate governance, internal control over financial reporting, insurance and other requirements for a public company, to continue to increase for the foreseeable future as we scale build our operations. clinical programs.

Legal Expenses

Legal expenses consist of fees incurred by the Company in its own defense and that of officers and employees in connection with a legal matter brought against the Company and Dr. Hing C. Wong, our Founder and Chief Executive Officer, by a former employer of Dr. Wong.

During the period ended December 31, 2022, Altor/NantCell initiated legal proceedings against Dr. Wong and the Company. On April 26, 2023, the parties stipulated that Altor/NantCell’s action against the Company would be consolidated with the Altor/NantCell arbitration demand against Dr. Wong. On April 27, 2023, the U.S. District Court for the Southern District of Florida (the “Court”) with jurisdiction over the lawsuit against the Company approved the parties’ stipulation and ordered the parties to arbitration. On May 1, 2023, Altor/NantCell filed a demand against the Company before JAMS. On May 3, 2023, Altor/NantCell dismissed the federal court action without prejudice and the Court ordered the case dismissed without prejudice and closed the case. Proceedings against the Company and Dr. Wong were consolidated in the arbitration before JAMS (“Arbitration”). On March 26, 2024, Altor/NantCell filed a complaint (the “Complaint”) against the Company in the Chancery Court of the State of Delaware for the contribution of legal fees and expenses advanced to Dr. Wong. The arbitration hearing was held on May 20, 2024 to May 31, 2024, after which the parties entered into settlement negotiations.

As reported in the Company’s Form 8-K filed on July 18, 2024 and further described in Part II, Item 1. – “Legal Proceedings” below, as of July 13, 2024, the Company and Dr. Hing C. Wong, the Company’s Founder and Chief Executive Officer, entered into a confidential Settlement Agreement and Release (the “Settlement Agreement”) with Altor BioScience, LLC (“Altor”), NantCell, Inc. (“NantCell”), and ImmunityBio, Inc. (the parent of Altor and NantCell, together with Altor and NantCell, “ImmunityBio”), to resolve the previously disclosed Arbitration before JAMS brought by Altor and NantCell as well as a Complaint Altor filed against the Company in the Chancery Court of the State of Delaware for the contribution of legal fees and expenses advanced to Dr. Wong. The Settlement Agreement includes mutual general releases by and among the parties thereto. No party is required to make any monetary payments to any other party or person under the Settlement Agreement and each party will bear its own expenses incurred in connection with the matter. The Company is completing procedures required to be in compliance with the terms of the Settlement Agreement. The Settlement Agreement provides that, upon completion of these procedures, the parties will stipulate that the Arbitration and Complaint should be dismissed. In accordance with 17 CFR 229.601 (Item 601), the Company intends to include the Settlement Agreement in the Company’s third quarter report on Form 10-Q.

Nonoperating Loss

As reported in the Company's Form 8-K filed on May 1, 2024 with the SEC, the Company became aware that it was the victim of a criminal scheme involving the impersonation of a purchaser upon the default on a legally binding commitment to purchase $8.0 million of secured notes from the Company. The scheme resulted in the misdirection of approximately $1.3 million held in Company accounts to a fraudulent account controlled by a third party. The Company is pursuing all available remedies to recover this loss. Given the limited success that these efforts have had to date for the recovery of funds, the Company recognized a loss of $1.3 million in the three- and six-month periods ended June 30, 2024.

Interest Expense

Interest expense includes interest paid on debt.

Other Income, Net

Other income, net consists of interest earned on our cash, cash equivalents, unrealized gains and losses related to our investments in U.S. government-backed securities, and other income and expenses related to non-operating activities.

Results of Operations

	Three Months Ended March 31,		Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2024	2023	2024	2023	2024
Revenues:						
Revenues	$ 41,883	$ 1,126,712	$ 622,807	$ 618,854	$ 664,690	$ 1,745,566
Cost of revenues	(29,350)	(511,965)	(502,402)	(438,443)	(531,752)	(950,408)
Net revenues	12,533	614,747	120,405	180,411	132,938	795,158
Operating expenses:						
Research and development	2,255,813	2,123,284	1,616,666	2,029,186	3,872,479	4,152,470
General and administrative	3,117,290	5,985,126	1,587,861	1,594,193	3,596,739	3,160,285
Legal expenses	1,426,399	10,393,042	2,534,811	14,812,076		
Nonoperating loss	—	1,300,000	—	1,300,000		
Total operating expenses	5,373,103	8,108,410	4,630,926	15,316,421	10,004,029	23,424,831
Loss from operations	(5,360,570)	(7,493,663)	(4,510,521)	(15,136,010)	(9,871,091)	(22,629,673)
Interest expense	(93,438)	—	(95,514)	(159,666)	(188,951)	(159,666)
Other (expense) income, net	383,322	25,602	301,615	15,485	684,936	41,086
Net loss	$ (5,070,686)	$ (7,468,061)	$ (4,304,420)	$ (15,280,191)	$ (9,375,106)	$ (22,748,253)

Comparison of the Three Months ended March 31, 2023 June 30, 2023 and March 31, 2024 June 30, 2024

Revenues

The Company recognized revenues of $41,883 $662,807 and $1.1 million $618,854 for the three months ended March 31, 2023 June 30, 2023 and 2024, respectively. Revenues were derived exclusively from the sale of licensed molecules to Wugen. The increase in revenues is primarily attributable to Wugen limiting its purchases in 2023, due mainly to changes in its clinical development program and delays in ramping up its manufacturing process. Under the terms of the supply agreement between Wugen and the Company, the Company earns an industry-standard gross margin. Occasionally, Wugen acquires product which is part of inventory we made for our own use. In these instances, we do not apply the standard costs since the cost of manufacturing these materials would have already been expensed in a prior period.

Research and Development Expenses

The following table summarizes our research and development expenses for the three months ended March 31, 2023 June 30, 2023 and March 31, 2024 June 30, 2024:

	Three Months Ended March 31,				Three Months Ended June 30,			
	2023	2024	$ Change	% Change	2023	2024	$ Change	% Change
Salaries, benefits and related expenses	744,465	$ 779,747	$ 35,282	5 %	$ 758,193	$ 756,646	$ (1,547)	(0)%
Manufacturing and materials	284,905	576,301	291,396	102 %	100,387	751,770	651,383	649 %
Preclinical expenses	737,686	285,091	(452,595)	(61)%	323,695	258,476	(65,219)	(20)%
Clinical trials	246,358	266,640	20,282	8 %	197,936	65,120	(132,816)	(67)%
Other expenses	242,399	215,505	(26,894)	(11)%	236,455	197,174	(39,281)	(17)%
Total research and development expenses	**$ 2,255,813**	**$ 2,123,284**	**$ (132,529)**	(6)%	**$ 1,616,666**	**$ 2,029,186**	**$ 412,520**	26 %

Research and development expenses decreased increased by $132,529, $412,250, or 6% 26%, from $2.3 million $1.6 million for the three months ended March 31, 2023 June 30, 2023 to $2.1 million $2.0 million for the three months ended March 31, 2024 June 30, 2024. The decrease increase was primarily due to a decline in preclinical expenses, partially offset by an increase in manufacturing and materials, offset by a decline in preclinical and clinical trial expenses.

Salaries, benefits, and related expenses increased decreased by $35,282, $1,547, or 5% less than 1%, from $744,465 $758,193 for the three months ended March 31, 2023 June 30, 2023 to $779,747 $756,646 for the three months ended March 31, 2024 June 30, 2024. This increase decrease was primarily attributable to a $27,234 $15,655 increase in salaries and related taxes, offset by a $6,711 increase $11,103 decrease in expenses recognized for stock compensation and a $6,099 decrease in expenses for employee benefits.

Manufacturing and materials expense increased by $291,396, $651,383, or 102% 649%, from $284,905 $100,387 for the three months ended March 31, 2023 June 30, 2023 to $576,301 $751,770 for the three months ended March 31, 2024 June 30, 2024. In the three months ended March 31, 2023, costs were primarily costs associated with a 200L cGMP run of HCW9302. In the three months ended March 31, 2024 June 30, 2023, costs were primarily attributable to ancillary activities such as shipping, insurance and storage. Production runs to build up a 12 - 24 month supply of clinical supply of HCW9218 and HCW9302 were completed. In the three months ended June 30, 2024, costs were primarily attributable to increased costs of production and materials related to manufacturing the high producing cell-line high-producing cell line of HCW9101. HCW9101, an affinity ligand we use in our manufacturing process.

Expenses associated with preclinical activities decreased by $452,595, $65,219, or 61% 20%, from $737,686 $323,695 for the three months ended March 31, 2023 June 30, 2023 to $285,091 $258,476 for the three months ended March 31, 2024 June 30, 2024. For the three months ended March 31, 2023 June 30, 2023, expenses costs were related incurred primarily for additional studies required for submission of an IND application to the cost of toxicology studies and experimental materials related FDA to IND-enabling activities required request permission to prepare our IND for Phase 1b/2 conduct a clinical trial study to evaluate HCW9302 in an autoimmune indication. In the three months ended March 31, 2024 June 30, 2024, toxicology and other IND-enabling studies were winding down, as we prepare to submit the IND application in the third quarter of 2024.

Expenses associated with clinical activities increased decreased by $20,282, $132,816, or 8% 67%, from $246,358 $197,936 for the three months ended March 31, 2023 June 30, 2023 to $266,640 $65,120 for the three months ended March 31, 2024 June 30, 2024. The increase decrease in costs was primarily attributable a $100,248 increase $105,959 decrease in the expenses associated with correlative studies and R&D collaborations, partially offset by a $79,966 decrease in patient fees and a $21,958 decrease in consulting and other clinical costs. professional fees.

Subject to our ability to successfully execute our plans to obtain bridge financing, we anticipate expenses related to clinical activities will increase substantially in the future, as we enter continue with a Phase 2 clinical trials trial to evaluate HCW9218 in ovarian and pancreatic cancer, as well as other indications. The first Phase 2 clinical trial to open is at UPMC, who will sponsor a randomized study in which one arm will evaluate HCW9218 in patients with metastatic advanced stage ovarian cancer in combination with neoadjuvant chemotherapy. Designed as a randomized trial, the primary objectives of this study are to evaluate the safety and tolerability of HCW9218 with chemotherapy and the

efficacy of the combined regimens in terms of complete pathologic response rate. If we are unable to complete planned capital-raising transactions and business development and capital-raising transactions for out-licensing, we may have to curtail or cease operations.

Other expenses, which include overhead allocations, decreased by $26,894, $39,281, or 11% 17%, from $242,399 $236,455 for the three months ended March 31, 2023 June 30, 2023 to $215,505 $197,174 for the three months ended March 31, 2024 June 30, 2024. This decrease is primarily attributable to a $30,527 $29,561 decrease in allocation of depreciation and a $4,336 $6,880 decrease in travel and travel-related expenses and a $8,503 decrease in expenses for equipment and supplies, partially offset by a $14,489 increase in repairs and maintenance. expenses.

General and Administrative Expenses

The following table summarizes our general and administrative expenses for the three months ended March 31, 2023 June 30, 2023 and March 31, 2024 June 30, 2024:

	Three Months Ended March 31,				Three Months Ended June 30,			
	2023	2024	$ Change	% Change	2023	2024	$ Change	% Change
Salaries, benefits and related expenses	$ 819,778	$ 521,610	$ (298,168)	(36)%	$ 812,889	$ 714,974	$ (97,915)	(12)%
Professional services	1,707,588	4,772,840	3,065,252	180%	201,815	229,963	28,148	14%
Facilities and office expenses	122,221	203,599	81,378	67%	141,459	204,715	63,256	45%
Depreciation	69,213	67,081	(2,132)	(3)%	64,797	66,615	1,818	3%
Rent and occupancy expense	42,159	42,716	557	1%	39,764	63,992	24,228	61%
Other expenses	356,331	377,280	20,949	6%	327,137	313,934	(13,203)	(4)%
Total general and administrative expenses	**$ 3,117,290**	**$ 5,985,126**	**$ 2,867,836**	92%	**$ 1,587,861**	**$ 1,594,193**	**$ 6,332**	0%

General and administrative expenses increased by $2.9 million, or 92%, from $3.1 million related to the ordinary course of business were $1.6 million and $1.6 million for the three months ended March 31, 2023 to $6.0 million for the three months ended March 31, 2024. The increase was primarily due to June 30, 2023 and 2024, respectively, with an increase in professional fees, which includes legal fees associated with the proceedings brought against the Company by Altor/NantCell, partially offset by a decrease in salaries, benefits and related expenses. of $6,332, or 0%.

Salaries, benefits and related expenses decreased by $298,168, $97,915, or 36% 12%, from $819,778 $812,889 for the three months ended March 31, 2023 June 30, 2023 to $521,610 $714,974 for the three months ended March 31, 2024 June 30, 2024. The decrease reflects cost cutting measures put in place in the three-month period ended June 30, 2024, which resulted in a $78,626 decrease in salaries and related taxes. In addition, there was primarily attributable a $12,499 decrease in expenses related to a $299,174 decline in performance-related bonus stock-based compensation.

Professional services increased by $3.1 million, $28,148, or 180% 14%, from $1.7 million $201,815 for the three months ended March 31, 2023 June 30, 2023 to $4.8 million $229,963 for the three months ended March 31, 2024 June 30, 2024. Professional services include corporate legal services, expenses related to legal actions brought by Altor/NantCell, and services for procuring patents, as well as other professional services, such as auditing and tax advisory fees. For the three months ended March 31, 2023, the Company incurred $1.1 million for The increase is primarily attributable to a $39,850 increase in auditing and tax advisory fees, partially offset by a $11,652 decrease in legal fees for services incurred in connection with the Altor/NantCell matter, $359,754 for legal fees in connection to procuring patents, and $233,007 in fees associated with other professional services. For the three months ended March 31, 2024, the Company incurred $4.1 million for legal fees in connection with the Altor/NantCell matter, $168,344 for legal fees in connection to procuring patents, and $185,462 in fees associated with other professional services. We expect to continue to incur material costs and expenses in connection with defending the Company in the Altor/NantCell matter through the third quarter of 2024. patents.

Facilities and office expenses increased by $81,378, $63,256, or 67% 45%, from $122,221 $141,459 for the three months ended March 31, 2023 June 30, 2023 to $203,599 $204,715 for the three months ended March 31, ,2024, June 30, 2024, primarily due to a $67,518 $73,462 increase in software and other licensing fees, and offset by a $16,960 increase $10,966 decrease in facilities expenses such as electricity and waste. waste disposal.

Other expenses increased decreased by $20,949, $13,202, or 6% 4%, from $356,331 $327,137 for the three months ended March 31, 2023 June 30, 2023 to $377,280 $313,934 for the three months ended March 31, 2024 June 30, 2024. The increase is primarily attributable to an a $43,228 increase of $147,525 in financing expenses, partially offset by a $57,337 $27,462 decrease in insurance-related costs and a $74,093 $27,642 decrease in Delaware franchise taxes.

Legal Expenses

Legal expenses were $1.4 million in the three months ended June 30, 2023 and $10.4 million for the three months ended June 30, 2024. In the three months ended June 30, 2023, costs were incurred in connection with several legal proceedings which culminated by consolidating Altor/NantCell's action against the Company with the Altor/NantCell arbitration demand against Dr. Wong. Thereafter, proceedings against the Company and Dr. Wong were consolidated in the arbitration before JAMS.

In the three months ended June 30, 2024, the arbitration hearing was held from May 20, 2024 to May 31, 2024. The Company incurred legal fees for a large team of lawyers require to represent the Company; Dr. Wong; Dr. Peter Rhode, our Chief Scientific Officer and Vice President of Clinical Affairs and an officer of the Company; as well as other employees. The hearing was followed by an extended period of intense negotiations which culminated in a Settlement Agreement entered into by the Company and Dr. Wong as of July 13, 2024 with Altor/NantCell and its parent, ImmunityBio. While the Company has relief from the future burden of ongoing legal expenses related to these proceedings, we incurred significant legal expenses for our defense and for the defense of officers and employees. We require a reasonable payment plan to prevent these expenses from overwhelming the Company's resources. We are engaged in discussions with the law firms involved with this matter.

Interest Expense

On August 15, 2022, we entered into a loan and security agreement with Cogent Bank to partially fund our purchase of the property we acquired on that same date. We borrowed $6.5 million under this agreement. Amounts outstanding on the loan accrue interest at a rate per annum equal to 5.75%. We were obligated to make interest-only payments on this loan from September 2022 through August 2023 and principal and interest payments in 47 equal monthly installments, based on a 25-year maturity schedule, commencing September 15, 2023. We paid $93,438 and $93,789 in cash for interest for the three months ended March 31, 2023 June 30, 2023 and 2024, respectively. For the three months ended March 31, 2023 June 30, 2023, interest was expense. expensed. For the three months ended March 31, 2024 June 30, 2024, interest was capitalized.

Other Income, Net

Other income, net decreased from $383,322 $301,615 for the three months ended March 31, 2023, June 30, 2023 to $25,602 $15,485 for the three months ended March 31, 2024 June 30, 2024. The decrease is primarily attributable to a decrease in interest earned for money market deposits and unrealized gains for investments in U.S. government-backed securities. In addition, for the three months ended March 31, 2023 June 30, 2023, Other income included rental income. On August 15, 2022, the Company entered into a short-term, market-rate lease with the former owner of the building we purchased on the same date, which terminated in the year ended December 31, 2023. We received rental income of $59,453 for the three months ended March 31, 2023 June 30, 2023.

Comparison of the Six Months ended June 30, 2023 and June 30, 2024

Revenues

The Company recognized $664,690 and $1.7 million of revenues for the six months ended June 30, 2023 and 2024, respectively. Revenues were derived exclusively from the sale of licensed molecules to Wugen. Under the terms of the supply agreement between Wugen and the Company, the Company earns an industry-standard gross margin. Occasionally, Wugen acquires product which is part of inventory we made for our own use. In these instances, we do not apply the standard costs since the cost of manufacturing these materials would have already been expensed in a prior period.

Research and Development Expenses

The following table summarizes our research and development expenses for the six months ended June 30, 2023 and June 30, 2024:

	Six Months Ended June 30,			
	2023	2024	$ Change	% Change
Salaries, benefits and related expenses	$ 1,502,658	$ 1,536,393	$ 33,735	2 %
Manufacturing and materials	385,293	1,328,072	942,779	245 %
Preclinical expenses	1,061,381	543,567	(517,814)	(49)%
Clinical trials	444,295	331,758	(112,537)	(25)%
Other expenses	478,852	412,680	(66,172)	(14)%
Total research and development expenses	**$ 3,872,479**	**$ 4,152,470**	**$ 279,991**	7 %

Research and development expenses increased by $279,991, or 7%, from $3.9 million for the six months ended June 30, 2023 to $4.2 million for the six months ended June 30, 2024. This increase was primarily attributable to an increase in expenses related to manufacturing and materials, partially offset by a decrease in preclinical and clinical trials expenses.

Salaries, benefits, and related expenses increased by $33,375, or 2%, from $1.5 million for the six months ended June 30, 2023 to $1.5 million for the six months ended June 30, 2024. This increase was primarily attributable to a $42,888 increase in salaries and related taxes, partially offset by a $9,766 decrease in expenses related to stock-based compensation.

Manufacturing and materials expense increased by $942,779, or 245%, from $385,293 for the six months ended June 30, 2023 to $1.3 million for the six months ended June 30, 2024. In the six months ended June 30, 2023, costs were primarily attributable to production activities associated with a 200L cGMP manufacturing run of HCW9302 and ancillary activities such as shipping, insurance and storage. In the six months ended June 30, 2024, costs were primarily attributable to the costs of production and materials related to manufacturing the high producing cell-line of HCW9101.

Expenses associated with preclinical activities decreased by $517,814, or 49%, from $1.1 million for the six months ended June 30, 2023 to $543,567 for the six months ended June 30, 2024. In the six months ended June 30, 2023, costs were incurred to complete the toxicology study and for additional studies required for submission of an IND application to the FDA to request permission to conduct a clinical study to evaluate HCW9302 in an autoimmune indication. In the six months ended June 30, 2024, toxicology and other IND-enabling studies were winding down, as we prepare to submit the IND application late in the third quarter of 2024.

Expenses associated with clinical activities decreased by $112,537, or 25%, from $444,295 for the six months ended June 30, 2023 to $331,758 for the six months ended June 30, 2024. The decrease was primarily attributable to a $170,973 decrease in patient fees, partially offset by a $60,091 increase costs for post-clinical studies that we conducted through collaborations. In the six months ended June 30, 2023, in addition to the University of Minnesota study which initiated in May 2022, the Company incurred costs related to an ongoing Company-sponsored Phase 1b clinical trial to evaluate HCW9218 in chemo-refractory/chemo-resistant pancreatic cancer which initiated in October 2022. In the six months ended June 30, 2024, we completed enrollment in the Phase 1/1b clinical trials and the majority of our activities were focused on post-clinical correlative studies which we conducted through collaborations. As a result of the Settlement Agreement, ImmunityBio has the exclusive right to the use of HCW9218 in the treatment of pancreatic cancer. We will continue to evaluate HCW9218 in combination with neoadjuvant chemotherapy in the treatment of ovarian cancer.

Other expenses, which include overhead allocations, decreased by $66,172, or 14%, from $478,852 for the six months ended June 30, 2023 to $412,680 for the six months ended June 30, 2024. The decrease in other expenses is primarily attributable to a $60,089 decrease in the allocation of depreciation and a $9,911 decrease in travel-related expenses.

General and Administrative Expenses

The following table summarizes our general and administrative expenses for the six months ended June 30, 2023 and June 30, 2024:

	Six Months Ended June 30,			
	2023	2024	$ Change	% Change
Salaries, benefits and related expenses	$ 1,632,665	$ 1,236,585	$ (396,080)	(24)%
Professional services	800,992	583,769	(217,223)	(27)%
Facilities and office expenses	263,681	408,314	144,633	55%
Depreciation	134,010	133,694	(316)	(0)%
Rent expense	81,924	106,708	24,784	30%
Other expenses	683,467	691,215	7,748	1%
Total general and administrative expenses	**$ 3,596,739**	**$ 3,160,285**	**$ (436,454)**	(12)%

General and administrative expenses related to the ordinary course of business decreased by $436,454, or 12%, from $3.6 million for the six months ended June 30, 2023 to $3.2 million for the six months ended June 30, 2024. The decrease is primarily attributable to a decrease in expenses as a result of cost-cutting measures put in place in the six months ended June 30, 2024, and a decrease in legal fees incurred in connection with procuring patents, partially offset by an increase in software licensing fees.

Salaries, benefits and related expenses decreased by $396,080, or 24%, from $1.6 million for the six months ended June 30, 2023 to $1.2 million for the six months ended June 30, 2024. The decrease reflects cost cutting measures put in place in the six month period ended June 30, 2024, which resulted in a $54,525 decrease in salaries and $304,174 decrease resulting from the waiver of deferred bonus payments due to officers of the Company. In addition, there was a $28,357 decrease in expenses related to stock-based compensation.

Professional services decreased by $217,223, or 27%, from $800,992 for the six months ended June 30, 2023 to $583,769 for the six months ended June 30, 2024. Professional services include corporate legal services, legal services for procuring patents, as well as other professional services, such as auditing and tax advisory fees. The

decrease is primarily attributable to a $203,062 decrease in legal fees incurred in connection with procuring patents.

Facilities and office expenses increased by 144,633, or 55%, from $263,681 for the six months ended June 30, 2023 to $408,314 for the six months ended June 30, 2024, primarily due to a $140,980 increase in software and other licensing fees and a $23,756 increase in costs for waste disposal, offset by a $20,808 decrease in facilities expenses such as office supplies and services.

Other expenses decreased by $7,748, or 1%, from $683,467 for the six months ended June 30, 2023 to $691,215 for the six months ended June 30, 2024. The increase is primarily attributable to a $190,585 increase in financing expenses primarily related to our search for a lender to complete the construction of the Company's new headquarters, partially offset by a $84,680 decrease in insurance-related costs and a $99,514 decrease in Delaware franchise taxes.

Legal Expenses

Legal expenses were $2.5 million in the six months ended June 30, 2023 and $14.8 million for the six months ended June 30, 2024. In the six months ended June 30, 2023, costs were incurred in connection with several legal proceedings which culminated by consolidating Altor/NantCell's action against the Company with the Altor/NantCell arbitration demand against Dr. Wong. Thereafter, proceedings against the Company and Dr. Wong were consolidated in the arbitration before JAMS.

In the six months ended June 30, 2024, preparations for the arbitration were taking place with witness preparation and depositions. The arbitration hearing was held from May 20, 2024 to May 31, 2024, which required a large team of lawyers to represent the Company; Dr. Wong; Dr. Peter Rhode, our Chief Scientific Officer and Vice President of Clinical Affairs and an officer of the Company; as well as other employees. The hearing was followed by an extended period of intense negotiations which culminated in a Settlement Agreement entered into by the Company and Dr. Wong as of July 13, 2024 with Altor/NantCell and its parent, ImmunityBio. While the Company has relief from the future burden of ongoing legal expenses related to these proceedings, we incurred significant legal expenses for our defense and for the defense of officers and employees. We require a reasonable payment plan to prevent these expenses from overwhelming the Company's resources. We are engaged in discussions with the law firms involved with this matter.

Interest Expense

On August 15, 2022, we entered into a loan and security agreement with Cogent Bank to partially fund our purchase of the property we acquired on that same date. We borrowed $6.5 million under this agreement. Amounts outstanding on the loan accrue interest at a rate per annum equal to 5.75%. We were obligated to make interest-only payments on this loan from September 2022 through August 2023 and principal and interest payments in 47 equal monthly installments, based on a 25-year maturity schedule, commencing September 15, 2023. We paid $93,438 and $93,789 in cash for interest for the six months ended June 30, 2023 and 2024, respectively. For the six months ended June 30, 2023, interest was expensed. For the six months ended June 30, 2024,three months interest was capitalized and three months interest was expensed.

Other Income, Net

Other income, net decreased from $684,936 for the six months ended June 30, 2023, to $41,086 for the six months ended June 30, 2024. The decrease is primarily attributable to a decrease interest earned for money market deposits and unrealized gains for investments in U.S. government-backed securities. Other income included rental income for the six months ended June 30, 2023. On August 15, 2022, the Company entered into a short-term, market-rate lease with the former owner of the building we purchased on the same date, which terminated in the year ended December 31, 2023. We received rental income of $118,907 for the six months ended June 30, 2023.

Liquidity and Capital Resources

Sources of Liquidity

As of March 31, 2024 June 30, 2024, our principal source of liquidity was $4.1 million $1.2 million in cash and cash equivalents, and there was is substantial doubt over as to whether the Company had has sufficient capital to operate for the next twelve 12 months from the issuance date of this Quarterly Report based on this liquidity. We considered elements of our financing plan that were probable and likely to be implemented within the next year, and we concluded such financing plans were not sufficient to mitigate the substantial doubt in our going concern analysis.

On August 15, 2022, we purchased a 36,000 square foot building located in Miramar, Florida for approximately $10.1 million, including transaction costs. A portion of the acquisition cost was funded with a $6.5 million five-year loan, secured by the building. The remainder of the purchase price was funded with cash. Amounts borrowed under the term facility have a fixed interest rate of 5.75%, with interest only payments required for the first year and 25-year amortization thereafter. There is no prepayment penalty. As of March 31, 2024 June 30, 2024, a balance of [$6.4] million $6.4 million remains due for this obligation, [$6.3] million $6.3 million of which is classified as a noncurrent liability included in Debt, net in the balance sheet included in the condensed interim financial statements included elsewhere in this Quarterly Report. As of March 31, 2024 June 30, 2024, we were in compliance with all covenants under the loan agreement and related documents.

Since the year end, we raised $6.1 million $8.0 million in financings. On February 20, 2024, we completed a $2.5 million private placement of common stock in which we sold an aggregate of 1,785,718 shares to certain of our officers and directors, at a purchase price of $1.40 per share. As of March 31, 2024 June 30, 2024, we received $2.0 million $3.7 million from the issuance of Secured Notes, which were issued to

certain of our officers and a member members of the Board of Directors, as well as other investors. On May 13, 2024 June 30, 2024, the Company issued $100,000 in Secured Notes including $90,000 invested by the Chairman of the Company's board of directors and $10,000 from another member of the board of directors. Subsequent to the reporting period, the Company issued an additional $1.8 million in Secured Notes, including an investment of $75,000 from the Company's Founder and Chief Executive Officer, purchased $25,000 from a member of the board of directors, and $25,000 from an additional $1.6 million officer of Secured Notes. the Company.

In The Company and Dr. Wong, our Founder and Chief Executive Officer, entered into a Current Report Settlement Agreement and Release on Form 8-K filed with a previously reported Arbitration as of July 13, 2024. See Part II., Item 1. - "Legal Proceedings." While the SEC on May 1, 2024 Settlement Agreement has resolved uncertainty regarding the outcome of these proceedings and the ongoing legal expenses, the Company incurred significant legal expenses in the period leading up to the Settlement Agreement. As of June 30, 2024, we reported a balance of $10.0 million for legal fees incurred but not yet paid that we were included within Accounts payable and an accrual of $4.8 million for accrued legal fees within Accrued liabilities and other current liabilities in the victim of accompany condensed balance sheet. In order not to overwhelm the Company's resources, a criminal scheme that resulted in a loss of $1.3 million and a default on a legally binding commitment to purchase $8.0 million of Secured Notes. Management reasonable payment plan will be required. The Company is currently engaged in discussions with the Audit Committee law firms involved with this matter.

We have emerged from the Settlement Agreement with a strong portfolio of TOBI-based molecules, but we may need to make some adjustment to our clinical development plan as a result of rights transferred to ImmunityBio, particularly related to clinical development of HCW9218 in cancer indications. We are in the process of reassessing our clinical assets and will make some adjustments to our definition of the Company's Board of Directors indications and markets that will be our core focus, but we remain committed to assess the effect of this incident and will work with management to establish a remediation plan. See Item 4. - "Controls and Procedures." The loss did not have any impact on the Company's financial position, results of operations or cash flows as of and developing immunotherapeutic treatments for the three month period ended March 31, 2024.

age-related diseases, especially cancer. Management has made some reductions in costs but and there may be further reductions or restructuring in order to continue the future after we complete the reassessment of our clinical development for our lead product candidates, we must maintain a core group of scientists. We continue strategy.

The Company continues to pursue our plan to obtain bridge financing through the issuance of up to $10.0 million in Secured Notes. Subsequent to the end of the second quarter of 2024, the Company issued an additional $1.8 million in Secured Notes, $3.6 million bringing the total issuance of which Secured Notes to $5.5 million. With the Settlement Agreement and imminent dismissal of the Arbitration and other claims, the attendant uncertainties for the outcome and additional complexities, as well as on-going legal costs of the dispute have been issued lifted. As a result, management intends to date in 2024. pursue the issuance of secured notes as well as other capital-raising activities. We anticipate this bridge have developed and are implementing our financing if fully subscribed, will allow us plan involving equity and equity-like financings which we intend to reach such time as we can execute plans for business development transactions such as licenses for non-core assets and capital-raising transactions, although we cannot assure you of this outcome for many reasons, including uncertainties regarding the Company's ongoing arbitration proceedings with Altor/NantCell, as described in Part II., Item 1. - "Legal Proceedings." close by year-end. In addition, to the bridge financing in the form of the sale of additional Secured Notes, other potential near-term financing plans may include cooperative agreements for clinical trials and third-party collaboration funding. Longer term, we plan to continue to pursue business development transactions such as licenses for non-core assets, although there can be no assurance of our success in doing so. If the Company is we are not successful in raising additional capital, management has we have the intent and ability to revise its our business plan and reduce costs. If such revisions are insufficient, the Company we may have to curtail or cease operations.

The accompanying interim financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of the uncertainties described above. The Company believes that substantial doubt exists regarding its ability to continue as a going concern for at least 12 months from the date of issuance of the Company's condensed interim financial statements, without additional funding or financial support. After considering management's plan for financing and funds raised that are probable to occur within one year, as well as that the Company expects to continue to incur losses from operations for the foreseeable future, management concluded that the substantial doubt that existed in its going concern analysis was not alleviated. A benefit of reaching a Settlement Agreement and concluding the Arbitration is a release from restrictions related to protection of privileged information, which hampered investor ability to conduct due diligence. As a result, we believe that other avenues of financing are now available to us, namely, capital-raising activities for equity and equity-like investments.

Because of the numerous risks and uncertainties associated with the clinical development and commercialization of immunotherapeutics, we are unable to estimate the exact amount of capital requirements to pursue these activities. Our funding requirements will depend on many factors, including, but not limited to:

- timing, progress, costs, and results of our ongoing preclinical studies and clinical trials of our immunotherapeutic products;
- costs, timing, and outcome of regulatory review of our product candidates;
- number of trials required for regulatory approval;
- whether we enter into any cooperative, collaboration or co-development agreements and the terms of such agreements;

- whether we raise additional funding through bank loan facilities, other debt arrangements, out-licensing or joint ventures, cooperative agreements or strategic collaborations;
- effect of competing technology and market developments;
- cost of maintaining, expanding, and enforcing our intellectual property rights;
- impact of arbitration, litigation, regulatory inquiries, or investigations, as well as costs to indemnify our officers and directors against third-party claims related to ou patents and other intellectual property:
- cost and timing of buildout of new headquarters, including risks of cost overruns and delays, and ability to obtain additional financing, if needed; and
- costs and timing of future commercialization activities, including product manufacturing, marketing, sales, and distribution, for any of our product candidates for wh receive regulatory approval.

A change in the outcome of any of these or other factors with respect to the clinical development and commercialization of our product candidates could significantly change the costs and timing associated with the development of that product candidate. Further, our operating plan may change, and we may need additional funds to meet operational needs and capital requirements for clinical trials and other research and development expenditures.

Comparison of the Cash Flows for the Three Six Months Ended March 31, 2023 June 30, 2023 and March 31, 2024 June 30, 2024

The following table summarizes our cash flows for the three six months ended March 31, 2023 June 30, 2023 and March 31, 2024 June 30, 2024:

	Three Months Ended March 31,		Six Months Ended June 30,	
	2023	2024	2023	2024
Cash used in operating activities	$ (3,638,213)	$ (3,603,870)	$ (13,030,059)	$ (8,466,076)
Cash used in investing activities	(300,385)	(129,709)	(1,856,900)	(111,142)
Cash provided by financing activities	1,901	4,222,554	9,613	6,143,431
Net (decrease) increase in cash and cash equivalents	**$ (3,936,697)**	**$ 488,975**	**$ (14,877,346)**	**$ (2,433,787)**

Operating Activities

Net cash used in operating activities were $3.6 million $13.0 million for the three six months ended March 31, 2023 June 30, 2023 and $8.5 million for the three six months ended March 31, 2024 June 30, 2024.

Cash used in operating activities for the three six months ended March 31, 2023 June 30, 2023 consisted primarily of a net loss of $9.4 million, as well as a deposit $5.3 million used to establish an interest reserve for future interest payments, as required under the terms of the 2023 Loan Agreement with Prime Capital Ventures. In addition, an increase in accounts receivable used $289,516 of cash and an increase in accounts payable and other liabilities provided $1.2 million of cash. There was $881,951 of cash provided by net non-cash adjustments, consisting of $583,180 of cash provided by an adjustment for depreciation and amortization, $522,629 of cash provided by an adjustment for stock-based compensation, partially offset by $223,440 of cash used by an adjustment for unrealized gains on investments.

Cash used in operating activities for the six months ended June 30, 2024 consisted primarily of net loss for the period of $5.1 million and $112,500 unrealized loss on investments, net. The amount of cash used in operating activities was partially offset by cash provided by operations arising from a $718,675 increase from Accounts payable and other liabilities, a $164,967 decrease in Accounts receivable, and a $182,294 decrease in Prepaid expenses and other assets. Further offsets were provided by noncash adjustments arising $298,847 from depreciation and amortization and $259,206 from stock-based compensation.

Cash used in operating activities for the three months ended March 31, 2024 consisted primarily of net loss for the period of $7.5 million $22.7 million, partially offset by cash provided by from a $2.5 million $11.9 million increase from Accounts in accounts payable primarily related to legal fees incurred in connection with the Arbitration and other liabilities, Settlement Agreement, a $631,873 $880,784 decrease in Accounts accounts receivable, and a $302,640 $703,805 decrease in Prepaid prepaid expenses and other assets. Further offsets were assets, as well as cash provided by noncash non-cash adjustments, arising from an addback consisting of $243,501 $373,433 of cash provided for adjustment for depreciation and amortization and an addback $484,506 of $244,685 from cash provided for adjustment for stock-based compensation.

Investing Activities

Cash used by investment activities for the three six months ended March 31, 2023 June 30, 2023 consisted of $300,385 used for purchases $1.9 million arising from the purchase of property and equipment.

Cash used by investment activities for the three six months ended March 31, 2024 June 30, 2024 consisted of $129,709 $111,142 used for purchases of property and equipment.

Financing Activities

During the three six months ended March 31, 2023 June 30, 2023, cash provided by financing activities consisted of $1,901 from was due to issuance of common stock upon exercise of vested employee stock options.

During the three six months ended March 31, 2024 June 30, 2024, cash provided by financing activities consisted of an increase arising from a $2.5 million private placement of the Company's common stock and cash received $3.7 million from the issuance of $1.8 million of Secured Notes. Subsequent to March 31, 2024, a check for the remaining $250,000 cleared to bring the total of cash received from the issuance of senior secured notes to $2.0 million. The increase in cash provided by financing activities were Notes, partially offset by a $29,706 decrease arising from $58,829 of cash used for debt repayment.

Critical Accounting Policies, Significant Judgements and Use of Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our unaudited condensed interim financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported expenses incurred 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 judgements 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 believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgements and estimates.

Revenue Recognition

We recognize revenue under the guidance of Topic 606. To determine the appropriate amount of revenue to be recognized for arrangements determined to be within the scope of Topic 606, we perform the following five steps: (i) identification of the contract(s) with the customer, (ii) identification of the promised goods or services in the contract and determination of whether the promised goods or services are performance obligations, (iii) measurement of the transaction price, (iv) allocation of the transaction price to the performance obligations, and (v) recognition of revenue when (or as) we satisfy each performance obligation. We only apply the five-step model to contracts when it is probable that we will collect the consideration we are entitled to in exchange for the goods or services we transfer to our customer. See Note 1 to our condensed interim financial statements appearing elsewhere in this Quarterly Report on Form 10-Q for more information.

Other than the above, there have been no material changes to our critical accounting policies and estimates from those described under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations— Critical Accounting Policies, Significant Judgements and Use of Estimates" in our Annual Report.

Recent Accounting Pronouncements

See Note 1 to our Annual Report.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

As of March 31, 2024 June 30, 2024, we had cash and cash equivalents of $4.1 million $1.2 million including cash, cash equivalents and market investments. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. We are exposed to market risk related to the marketability of our Wugen common stock reported within Investments in the accompanying condensed interim balance sheet. Until such time as these shares become publicly traded, we will have limited access to liquidity for these securities.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

As of March 31, 2024 June 30, 2024, our management, with participation of our principal executive officer and principal financial officer, performed an evaluation of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a – 15(e) under the Exchange Act). Based on that evaluation, two material weaknesses in the internal control over financial reporting (described below) were identified. Our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were not effective at the reasonable assurance level as of March 31, 2024 during the period ended June 30, 2024.

The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act are recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) under the Exchange Act). Internal control over financial reporting is a process designed under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States.

As of March 31, 2024 June 30, 2024, our management assessed the effectiveness of our internal control over financial reporting using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework. Based on this assessment, two material weaknesses over financial reporting were identified (described below). Our principal executive officer and principal financial officer concluded that our internal control over financial reporting was not effective as of March 31, 2024.

---

during the period ended June 30, 2024. During the period ended June 30, 2024, a Remediation Plan was implemented. See “Remediation Plan for Material Weaknesses in Internal Control over Financial Reporting.”

In a Current Report on Form 8-K filed with the SEC on May 1, 2024, we became aware that we were the victim of a criminal scheme involving the impersonation of a purchaser of Secured Notes upon the default on a legally binding commitment to purchase Secured Notes. The scheme resulted in the misdirection of approximately $1.3 million held in Company accounts to a fraudulent account controlled by a third party and a default on a legally binding commitment to purchase $8.0 million of Secured Notes. As a result of the default and the related misdirection of funds, management re-evaluated the effectiveness of our disclosure controls and procedures and internal control over financial reporting as of December 31, 2023. Based on this assessment, management identified material weaknesses in two areas, including the methods used to review, evaluate and accept financing proposals from investors and lenders and the process used to enter unusual significant transactions. These material weaknesses remained unremediated as of March 31, 2024. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that a reasonable possibility exists that a material misstatement of our annual or condensed interim financial statements would not be prevented or detected on a timely basis. There was no impact on the financial position, results of operations and cash flows as As a result of the material weaknesses, weakness to protect the Company’s assets from fraud committed by third parties, there was a $1.3 million loss recognized on the Company’s interim condensed financial statements.

Remediation Plans Plan for Material Weakness in Internal Control over Financial Reporting

We are committed to establishing and maintaining a strong internal control environment. In response to the identified material weakness as described above, the Company’s Board of Directors and its Audit Committee are conducting have conducted an internal investigation to determine the root cause of the material weaknesses, with advice from outside advisors. Upon conclusion Along with the advice of this investigation, they will work outside advisors, the board of directors worked with management to evaluate internal controls over financial reporting based on criteria set forth in “Internal Control – Integrated Framework (2013)” issued by the Committee of Sponsoring Organizations of the Treadway Commission. Remediation plans being considered include, but are not limited to, adjusting As a result, the following two actions were taken by the board of directors:

On May 13, 2024, the board of directors adopted a Delegation of Management Authorities (“Authorization Matrix”), which provides for authorization thresholds for significant and unusual transactions, budget and strategic plans, audit and policies, personnel actions, contracts, litigation, major projects, credit or significant loans, and consulting agreements.

On June 11, 2024, the board of directors adopted a Remediation Plan designed to implement and strengthen controls and prevent re-occurrence of fraud on the Company:

1. All lenders, investors or others involved in financial transactions enhancing or investing in the Company's Company will undergo a standard due diligence procedures i connection process, including a background check and document verification.
    a. The Company will obtain the appropriate background checks, including identity and verification, criminal, civil, and financial searches.
    b. The Company will use third parties to verify Know Your Client (“KYC”) documents, including, verification process with vetting the banks providing letters.
2. On May 13, 2024, the Board adopted a Delegation of potential financial transactions with investors and lenders, requiring that Management Authorities (the “Authority Matrix”).
3. All Company transactions are required to be performed in with U.S. dollars in compliance with authorization thresholds, and requiring that transfers via Company check wire transfer unless board approval is received.
4. Company funds are made only by wire or check. A final remediation plan is expected not permitted to be transferred to a personal account. All Company accounts will

the Company name.

5. All significant theft or fraud will be reported to the Board and authorities immediately, and no less than 24 hours after the Company becomes aware of the occurrence theft or fraud.

6. The Company shall continue ongoing cybersecurity training for all employees.

7. The Company will annually review with employees, the IT/equipment use policy in Section 404 of the Employee Handbook.

8. Communications with third parties relating to Company business shall take place on Company email or authorized Company accounts. For record keeping purposes, communications relating to loans, investments, and financing arrangements in the Company shall take place (if electronically) via electronic mail through Company em accounts, or, if necessary to chat, via regular SMS chat on Company authorized phones/accounts.

9. The Company will provide information on its financial condition (including proof of liquidity) only as approved by June 30, 2024. two executive employees.

Inherent Limitations of Internal Controls

While we strive to create a stronger control environment, we recognize that it is impossible for our internal controls over financial reporting to prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. While we are committed to continuously improve and strengthen our control environment, over time, our internal controls over financial reporting may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Projections of any evaluation of effectiveness to future periods are subject to the risk that internal controls over financial reporting may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act during the three months ended March 31, 2024 June 30, 2024 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, the Company is a party to or otherwise involved in legal proceedings, including suits, assessments, regulatory actions and investigations generally arising out of the normal course of business. Such proceedings can be costly, time consuming, and unpredictable. Therefore, no assurance can be given on the outcome of any proceeding or the potential impact on our results of operations or financial condition.

On December 23, 2022 During the period ended December 31, 2022, a lawsuit was filed by Altor BioScience, LLC and NantCell, Inc., collectively, Altor/NantCell initiated legal proceedings against the Company in U.S. District Court for the Southern District of Florida, or the Court, alleging misappropriation of trade secrets under state and federal laws, inducement of breach of contract and breach of fiduciary duty, tortious interference with contractual relations, specific performance, conversion, unjust enrichment, specific performance for assignment of patents and patent applications, constructive trust, and replevin. The complaint against the Company is based on very similar allegations as those alleged by Altor/NantCell in an arbitration commenced in December 2022 against the Company's Founder and Chief Executive Officer, Dr. Hing C. Wong, who was formerly employed by Altor/NantCell. Altor/NantCell alleges that Dr. Wong purportedly took Altor/NantCell's confidential and trade-secret information and used it to form and build competing products for the Company. Altor/NantCell allege that each of the provisional applications that the Company has filed for relate to the use of fusion proteins, tissue factor, and other proprietary data that were developed at Altor/NantCell, while Dr. Wong was an employee of or consultant to Altor/NantCell, and using its resources. Altor/NantCell seeks compensatory and punitive damages, attorneys' fees and costs, and equitable relief including an order requiring the Company to assign title and all rights to the Company's patents and provisional applications to Altor/NantCell.

On January 31, 2023, the Company filed a motion to compel arbitration, a motion for the stay of the litigation, and a motion to dismiss the complaint ("motion to compel"), which are currently pending before the Court. On April 18, 2023, the U.S. District Court for the Southern District of Florida (the "Court") heard oral argument on the Company's motion to compel and ordered the parties to provide supplemental briefing by April 28, 2023. Before the Court ruled on the Company's motion to compel, on April 26, 2023, the parties stipulated that Altor/NantCell's action against the Company would be consolidated with the Altor/NantCell arbitration demand against Dr. Wong. On April 27, 2023, the U.S. District Court for the Southern District of Florida (the "Court") with jurisdiction over the lawsuit against the Company approved the parties' stipulation and ordered the parties to arbitration. On May 1, 2023, Altor/NantCell filed a demand against the Company before JAMS. On May 3, 2023, Altor/NantCell dismissed the federal court action without prejudice and the Court ordered the case dismissed without prejudice and closed the case. Altor/NantCell's proceeding Proceedings against the Company is now proceeding and Dr. Wong were consolidated in the arbitration before JAMS. The arbitration hearing was held from May 20, 2024 to May 31, 2024, after which the parties entered into settlement negotiations.

As reported in the Company's Form 8-K filed on July 18, 2024 and further described in Part II, Item 1. – "Legal Proceedings" below, as of July 13, 2024, the Company and Dr. Hing C. Wong, the Company's Founder and Chief Executive Officer, entered into a confidential Settlement Agreement and Release (the "Settlement Agreement") with Altor BioScience, LLC ("Altor"), NantCell, Inc. ("NantCell"), and ImmunityBio, Inc. (the parent of Altor and NantCell, together with Altor and NantCell, "ImmunityBio"), to resolve the previously disclosed arbitration before JAMS with an arbitration hearing scheduled for May 20, 2024.

In addition, on March 26, 2024, Altor/ brought by Altor and NantCell gave notice that they are filing (the "Arbitration") as well as a complaint (the "Complaint") Altor filed against the Company in the Chancery Court of the State of Delaware for the contribution of legal fees and expenses advanced to Dr. Wong our founder ("Complaint"). The Settlement Agreement includes mutual general releases by and chief executive officer, in connection with among the arbitration discussed above. Prior parties thereto. No party is required to make any monetary payments to any other party or person under the filing of the Complaint, Altor/NantCell had previously sought advancement from the Company Settlement Agreement and the Company agreed to advance 50% of Dr. Wong's legal fees going forward from December 2023. On January 8, 2024, Altor/NantCell reserved their right to pursue contribution against the Company for 50% of the amount Altor/NantCell sent for advancement of expenses for Dr. Wong. In the Complaint, Altor/NantCell seek 50% of the fees they have already advanced to Dr. Wong, a declaration that the Company has an obligation to contribute 50% of the advancement of Dr. Wong's expenses including 50% of Dr. Wong's each party will bear its own expenses incurred in connection with the arbitration through final resolution matter. The Company is completing procedures required to be in compliance with the terms of the matter, Settlement Agreement. The Settlement Agreement provides that, upon completion of these procedures, the parties will stipulate that the Arbitration and costs Complaint should be dismissed. In accordance with 17 CFR 229.601 (Item 601), the Company intends to include the Settlement Agreement in the Company's third quarter report on Form 10-Q.

Pursuant to the Settlement Agreement, the Company transferred and fees assigned to ImmunityBio ownership of certain intellectual property (including issued patents, pending patent applications, and know-how) for TOBI™-based molecules for use in bringing this action. the oncology field. The Company retains the worldwide, perpetual, irrevocable, fully paid-up, royalty-free, exclusive right and license to exploit HCW9218 for all age-related diseases other than cancer, with the exception of the treatment of ovarian cancer, which is also retained by the Company and is currently being studied in a Phase 2 clinical trial at the University of Pittsburgh Medical Center. The Company also retains the right to develop treatments for all indications with respect to HCW9302 and HCW9206, which, along with HCW9218, are the lead product candidates in the Company's clinical development pipeline. ImmunityBio has the exclusive right to pursue oncology indications with all of the TOBI™-based molecules designed with a TGF-β domain, including HCW9218, with the exception of the treatment of ovarian cancer with HCW9218 in combination with neoadjuvant chemotherapy, which is retained by the Company. Under the Settlement Agreement ImmunityBio also receives an exclusive license to exploit fusion proteins, molecules and/or antibodies created utilizing the TOBI™ Platform directed to the receptors of PDL-1, IL-7, IL-12, IL-18, and IL-21, and one additional target to be selected by ImmunityBio within the next six months at its sole discretion, in the oncology field. The Company's ownership and rights with respect to HCW9302, HCW9206 and HCW9201 are expressly excluded from the rights transferred to ImmunityBio for oncology indications. In addition, ImmunityBio received a non-exclusive license to exploit HCW9201 administered by injection for oncology indications.

Although adverse decisions (or settlements) may occur The Company retains ownership and control of the TOBI™ platform and TOBI-based molecules, with no restrictions under the Settlement Agreement on our ability to use the TOBI™ platform for protein-fusion molecules for non-oncology indications. We have rights to pursue oncology indications, in particular using HCW9302, HCW9206 and HCW9201. Further, the Company retains ownership of the Wugen license and shares of Wugen common stock transferred to the Company as the upfront licensing fee from Wugen for granting the Wugen license. For our lead molecule, HCW9218, we maintain the non-exclusive right to use HCW9218 in combination with neoadjuvant chemotherapy in ovarian cancer, in addition to exclusive rights for clinical development and use of HCW9218 in the legal proceedings described above, it treatment of all non-oncological diseases. We retain ownership of our lead molecule, HCW9302, which expands T_{reg} cells and is not possible designed to reasonably estimate treat autoimmune diseases and other proinflammatory diseases, including cancer, and the possible loss or range ownership of loss, if any, associated therewith at this time HCW9206, a preclinical molecule which we are developing for the treatment of cancer and as such, other age-related diseases. The Company agreed to provide ImmunityBio with a right of first refusal to enter a licensing agreement for oncology indications for HCW9206. We have no accrual restrictions on the development of HCW9206 for our own clinical development activities, including oncology indications. Under the terms of the Settlement Agreement, ImmunityBio will own the cell line and supply for HCW9218, and the parties agreed that within six months from the date of the Settlement Agreement they will enter into a supply agreement providing the Company with a continuing supply of HCW9218 molecules. The Company also retains *in vivo* rights to HCW9201, a combination of IL-12, IL-15, and IL-18 in a single protein complex which is designed to stimulate activation and proliferation signals in human NK cells. The Company retains ownership of the cell lines for HCW9302, HCW9206 and HCW9201, and thus will retain independent

control over manufacturing and supply for these matters has been recorded within our audited financial statements included elsewhere in this Annual Report. If liability is determined, it could have a material adverse effect on the Company's business, results of operations and financial condition. compounds.

Item 1A. Risk Factors.

There have been no material changes to the risk factors previously disclosed by us in our Annual Report. The risk factors included the Annual Report continue to apply to us and describe risks and uncertainties that could cause actual results to differ materially from the results expressed or implied by the forward-looking statements contained in this Quarterly Report. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business, financial condition and results of operations.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Unregistered Sales of Equity Securities

On February 20, 2024 (the "Purchase Date"), we entered into subscription agreements (the "Subscription Agreements") with certain officers and directors of the Company, including our Founder and Chief Executive Officer, our Chief Financial Officer and the Chairman of the Company's Board of Directors, pursuant to which the Company sold an aggregate of 1,785,718 shares (the "Shares") of our common stock, par value $0.0001 per share (the "Common Stock"), at a purchase price of $1.40 per share for an aggregate purchase price of $2.5 million. The per share purchase price represents a 25% premium to the per share closing price of the Common Stock as reported on the Nasdaq Global Market on the Purchase Date and a 19% premium to the 5-day volume weighted average closing price per share of the Common Stock as reported on the Nasdaq Global Market for the period ending on the Purchase Date.

The Shares issued pursuant to the Subscription Agreements were not registered under the Securities Act of 1933, as amended, in in reliance upon exemptions provided by Section 4(a)(2) of the Securities Act of 1933, as amended, and Rule 506 of Regulation D promulgated thereunder. amended.

Issuer Repurchases of Equity Securities

None.

Item 3. Defaults Upon Senior Securities.

Not Applicable.

Item 4. Mine Safety Disclosures.

Not Applicable.

Item 5. Other Information.

Insider Adoption or Termination of Trading Arrangements

During the fiscal quarter ended March 31, 2024 June 30, 2024, none of our directors or officers informed us of the adoption, modification or termination of a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as those terms are defined in Regulation S-K, Item 408.

Secured Notes Issuance

The following information is being included in this Item 5 in lieu of filing such information on a Current Report on Form 8-K under Item 2.03. Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant and Item 8.01:

As of June 30, 2024, all existing investors approved an Amended and Restated Note Purchase Agreement ("Amended and Restated Note Purchase Agreement," representing $3.7 million of the outstanding principal for the Secured Notes ("Initial Secured Notes"), including an investment of $2.2 million from Dr. Hing C. Wong, Founder and Chief Executive Officer; $220,000 from Rebecca Byam, Chief Financial Officer; $90,000 from Scott T. Garrett, the Chairman of our board of directors; and $60,000 from Gary M. Winer, a member of our board of directors.

On March 28, 2024 July 2, 2024, we the Company closed the previously announced issuance of $2.0 million in aggregate principal amount of Secured Notes (the "Initial Secured Notes").

On May 13, 2024, we closed on an additional issuance of $1.6 million of Secured Notes (the $1.5 million (this investment and all subsequent investments known as "Additional Secured Notes") to our Founder and Chief Executive Officer. . The Additional Secured Notes were issued pursuant to the previously announced Amended and Restated Note Purchase Agreement, dated as of March 28, 2024 July 2, 2024, between us and the Purchasers (as defined in the Amended and Restated Note Purchase Agreement) party thereto. The material terms of the Additional Secured Notes are identical to the terms of the previously disclosed Initial Secured Notes.

As of August 5, 2024, the Company closed on an issuance of $250,000 of Additional Secured Notes, including an investment of $75,000 from Dr. Wong; $50,000 from Mr. Garrett; $25,000 from Rick S. Greene, a member of the board of directors; and $25,000 from Lee Flowers, Senior Vice President of Business Development.

The issuance of the Additional Secured Notes was exempt from the registration requirements of the Securities Act of 1933, as amended, in accordance with Section 4(a)(2) and/or Regulation 506 promulgated thereunder, , as a transaction by an issuer not involving a public offering. In addition, our Board of Directors and the Audit Committee of our Board of Directors reviewed the transaction under our policy for Related Party Transactions (the "Policy") and determined that the issuance of the Additional Secured Notes was in compliance with the Policy.

Please refer The Senior Notes bear interest at a rate of 9% per annum, payable quarterly in arrears, and mature on August 30, 2026 (the "Maturity Date"), on which date the principal balance, accrued but unpaid interest, and other amounts that may be due under the terms of the Amended and Restated Note Purchase Agreement shall be due and payable. The Secured Notes may be prepaid on or prior to December 31, 2024, but will be subject to a 5% prepayment penalty ("Premium Amount"). Thereafter, the Senior Notes may be repaid upon a Mandatory Redemption event or at the end of the term.

As a condition to entering into the Amended and Restated Note Purchase Agreement, the Company, Mercedes M. Sellek, P.A. ("Escrow Agent"), and the Purchasers entered into that certain Escrow Agreement and Amended and Restated Pledge Agreement, dated July 2, 2024, pursuant to which the Company agreed to pledge our equity ownership interest in Wugen, which was equivalent to a 5.6% ownership stake in that company as of June 30, 2024 (the "Pledged Collateral"), to be held and released by Escrow Agent according to the Annual Report for a description terms of the agreements entered into in connection with Initial Secured Notes and Escrow Agreement, as security for the Additional Secured Notes.

Upon a qualifying event Mandatory Redemption involving a transaction such as an acquisition, merger or initial public offering in which the Pledged Collateral can be sold or liquidated prior to the Maturity Date, subject to certain limitations (such as a threshold price per share in the case of an initial public offering), the Company agreed to repay all indebtedness (including accrued interest) related to the Secured Notes plus a Bonus Payment (as defined in the Amended and Restated Note Purchase Agreement). If there is no such Mandatory Redemption prior to the Maturity Date, the Company agreed to pay the holders of Secured Note a Bonus Payment under certain circumstances.

Upon a bona fide equity offering (as defined in the Amended and Restated Note Purchase Agreement), Senior Note holders have the right to convert to shares of the Company's common stock (as defined in the Amended and Restated Note Purchase Agreement). The Amended and Restated Note Purchase Agreement sets forth preliminary terms that are subject to final documentation.

Upon an Event of Default (as defined in the Amended and Restated Note Purchase Agreement), the Company will have a thirty (30) day cure period (the "Cure Period"), and if the Event of Default is not so cured at the end of the Cure Period, the Company is required to distribute the Pledged Collateral to the Purchasers on a *pro rata* basis, determined based on the issuance of $10.0 million in Secured Notes, in full satisfaction of the indebtedness evidenced by the Secured Notes.

The foregoing descriptions of the Amended and Restated Note Purchase Agreement, Amended and Restated Senior Notes, Escrow Agreement and Amended and Restated Pledge Agreement do not purport to be complete and are qualified in their entirety by reference to the full text of the Form of Amended and Restated Senior Secured Note Purchase Agreement, Form of Senior Secured Promissory Note, Form of the Amended and Restated Pledge Agreement and Form of Amended and Restated Escrow Agreement, copies of which are filed as Exhibit 10.1, Exhibit 10.2, Exhibit 10.3 and Exhibit 10.4, respectively, to this Quarterly Report and are incorporated herein by reference.

The issuance of the Additional Secured Notes was exempt from the registration requirements of the Securities Act of 1933, as amended, in accordance with Section 4(a)(2), as a transaction by an issuer not involving a public offering. In addition, our Board of Directors and the Audit Committee of our Board of Directors reviewed the transaction under our policy for Related Party Transactions (the "Policy") and determined that the issuance of the Additional Secured Notes was in compliance with the Policy.

Item 6. Exhibits.

The exhibits filed or furnished as part of this Quarterly Report on Form 10-Q are set forth on the Exhibit Index, which Exhibit Index is incorporated herein by reference.

		Incorporated by Reference					
Exhibit Number	Description	Form	File No.	Exhibit No.	Filing Date	Filed Herewith	Furnished Herewith
10.1#	Form of Amended and Restated Senior Secured Note Purchase Agreement, dated March 28, 2024 July 2, 2024, by and between the Company and the Purchaser party thereto					X	
10.2#	Form of Senior Secured Promissory Note dated March 28, 2024, by and between the Company and the Holder party thereof	10-K	001-40591	10.1	04/01/2024		X
10.3#	Form of Amended and Restated Pledge Agreement, dated March 28, 2024 July 2, 2024, by and between among the Company, Escrow Agent and Noteholder party parties thereto	10-K	001-40591	10.1	04/01/2024		X
10.4#	Form of Escrow Agreement, dated March 28, 2024 July 2, 2024, by and between among the Company, Escrow Agent and Noteholder party parties thereto	10-K	001-40591	10.2	04/01/2024		
10.5#	Form of Subscription Agree					X	

e
m
e
n
t,
d
a
t
e
d
F
e
b
r
u
a
r
y
2
0
,
2
0
2
4
,
b
y
a
n
d
b
e
t
w
e
e
n
t
h
e
C
o
m
p
a
n
y
a
n
d
i
t
n
e
S
u

	b s c r i b e r s p a r i t y t h e r e t o		
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.		X
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.		X
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.		X
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.		X
101	The following materials from the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2024 June 30, 2024, formatted in Inline XBRL (eXtensible Business Reporting Language): (i) the Condensed Interim Balance Sheets as of December 31, 2023 and March 31, 2024 June 30, 2024 (unaudited); (ii) the Condensed Interim Statements of Operations for the three and six months ended March 31, 2023 June 30, 2023 (unaudited) and March 31, 2024 June 30, 2024 (unaudited); (iv) the Condensed Interim Statements of Changes in Stockholders' Equity for the three six months ended March 31, 2023 June 30, 2023 (unaudited) and March 31, 2024 June 30, 2024 (unaudited); (v) the Condensed Interim Statements of Cash Flows for the three six months ended March 31, 2023 June 30, 2023 (unaudited) and March 31, 2024 June 30, 2024 (unaudited); and (vi) the notes to the Condensed Interim Financial Statements (unaudited).	X	X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)		X

* This certification is deemed not filed for purpose of Section 18 of the Exchange Act or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.

\# Certain information in this document has been excluded pursuant to Item 601(a)(5) or (a)(6) of Regulation S-K. The Registrant agrees to furnish supplementally such information to the SEC upon request.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

HCW Biologics Inc.

Date: May 15, 2024 August 14, 2024

By: /s/ Hing C. Wong

Hing C. Wong

Chief Executive Officer

(Principal Executive Officer)

Date: May 15, 2024 August 14, 2024

By: /s/ Rebecca Byam

Rebecca Byam

Chief Financial Officer

(Principal Financial and Accounting Officer)

EXHIBIT**Exhibit 10.1**

HCW BIOLOGICS INC.

AMENDED AND RESTATED

SENIOR SECURED NOTE PURCHASE AGREEMENT

This Amended and Restated Senior Secured Note Purchase Agreement (this "Agreement") is made as of March 28, 2024 July 2, 2024 (the "Closing Date") by and between HCW Biologics Inc., a Delaware corporation (the "Company"), and each of the purchasers listed on Exhibit B attached to this Agreement (each a "Purchaser" and together the "Purchasers").

RECITALS

The Company and certain Purchasers entered into that certain Senior Secured Note Purchase Agreement dated as of March 28, 2024 (the "Original Agreement"), and, contemporaneously therewith, an initial Closing (defined below) occurred at which the Company received $3,700,000 of proceeds from such Purchasers in exchange for Notes issued by the Company in accordance with the Original Agreement.

The Company desires and the Purchasers desire to amend and restate the Original Agreement to be and read as set forth below, to issue amended and sell and each Purchaser desires to purchase, a restated senior secured promissory note notes to

the prior Purchasers and new senior secured promissory notes to new Purchasers, each in substantially the form attached to this Agreement as Exhibit A (the (each a "Note" and together, the "Notes"). Capitalized terms not otherwise defined herein have the meaning given them in the Note.

AGREEMENT

The parties hereby agree as follows:

1. **Purchase and Sale of Notes.**

(a) **Sale and Issuance of Notes.** Subject to the terms and conditions of this Agreement, each Purchaser agrees to purchase at the Closing (as defined below) and the Company agrees to sell and issue to each Purchaser a Note in the principal amount set forth opposite such Purchaser's name on Exhibit B. The purchase price of each Note shall be equal to 100% of the principal amount of such Note. The Company's agreements with each of the Purchasers are separate agreements, and the sales of the Notes to each of the Purchasers are separate sales. The maturity date of each Note shall be August 30, 2026 (the "Maturity Date").

(b) **Closing; Delivery.**

(i) The purchase and sale of the Notes shall take place remotely by the mailed or electronic exchange (including, for the avoidance of doubt, by DocuSign) DocuSign or Box Sign) among the parties and their counsel. All documents and deliverables required under this Agreement must be received by 10:00 a.m. Eastern Time, on March 28, 2024, or in such other manner or at such other time and place as the Company and the Purchasers respective Purchaser mutually agree, orally or in writing (which (each such time and place are is designated as the a "Closing"), it being

understood and agreed that one or more Closings occurred prior to the date hereof, and one or more additional Closings may occur on or after the date hereof). In the event there is more than one closing, the term "Closing" shall apply to each such closing, unless otherwise specified herein, but in no event shall any such Closing take place later than ninety (90) days after March 28, 2024 August 30, 2024.

(ii) At each Closing, the Company shall deliver to each Purchaser the Note to be purchased by such Purchaser against (1) each Purchaser's commitment to remit payment of the purchase price therefor by check payable to the Company or by wire transfer to a bank designated by the Company in accordance with the wire instructions attached as Exhibit C hereto at or before the Closing Date, (2) delivery of counterpart signature pages to this Agreement and the Note, and (3) delivery of a validly completed and executed IRS Form

W-8BEN/W-8BEN-E, IRS Form W-9 or similar form, as applicable, establishing such Purchaser's exemption from withholding tax.

(iii)Until the earlier of (A) such time as the aggregate amount of committed principal indebtedness evidenced by the Notes equals a total of $10,000,000, or (B) the date 90 days from March 28, 2024August 30, 2024, the Company may sell additional Notes to such persons or entities as determined by the Company, or to any Purchaser who desires to acquire additional Notes. All such sales shall be made on the terms and conditions set forth in this Agreement. For purposes of this Agreement, and all other agreements contemplated hereby, any additional purchaser so acquiring Notes shall be deemed to be a "Purchaser" for purposes of this Agreement, and any notes so acquired by such additional purchaser shall be deemed to be "Notes".

2. **Security Interest.** The indebtedness evidenced by the Notes shall be secured by the Company's equity ownership interest in Wugen, Inc. (the "Pledged Shares") in accordance with the provisions of a an amended and restated pledge agreement among the Company and the Purchasers in the form attached as Exhibit D to this Agreement (the "Pledge Agreement").

3. **Optional Prepayment**. The Notes Company may, be prepaid at its option, prepay the Notes in whole or in part at any time prior to the Maturity Date (each, a "Prepayment Event") December 31, 2024; provided, however, that the amount of any such prepayment (the "Prepayment Amount") must be made to all the Purchasers on a *pro rata* basis based on their respective pro rata share of the aggregate principal amount of the Notes. Notwithstanding anything Notes (the date of such prepayment being referred to the contrary set forth herein if there is a Prepayment Event, then on as the date thereof (the "Prepayment Date"), ; and provided, further, that, in addition to the Prepayment Amount, the Company shall pay the Premium Amount (as defined below) to all each Purchaser on the Purchasers on a *pro rata* basis based on their respective *pro rata* share of the principal amount of the Notes. Prepayment Date. For purposes of this Agreement, the "Premium Amount" for each Purchaser shall be an amount equal to the product of (i) the aggregate principal balance of then outstanding under the Notes Note(s) then outstanding held by such Purchaser as of the applicable Prepayment Date prior to giving effect to the payment of the Prepayment Amount, multiplied by (ii) 0.05. For the avoidance of doubt, the Company may not voluntarily prepay the Notes after December 31, 2024.

4. **Mandatory Prepayment**. Upon the occurrence of a qualifying event prior to Maturity Date described Mandatory Prepayment Event as defined in this Section 4 below, occurring prior to the Maturity Date, the Notes, including principal, accrued interest thereon, plus the Premium Amount (defined above) or the Bonus Payment, if required under Section 3 above, 6 below, must be paid in the manner and to the extent provided herein. Any proceeds remaining from the sale of the Pledge Pledged Shares after meeting satisfying the Mandatory Prepayment requirements in this Section 4 shall be retained by the Company.

(i)
Qualifying event related to an Initial Public Offering (as defined below) or Merger Event (as defined below):

(1) (a) In the event that Wugen, Inc. completes its the Mandatory Prepayment Event is an Initial Public Offering or undergoes Merger Event prior to a transaction in which the Maturity Date, which results Company receives publicly-traded securities in a price per share exchange for the Pledged Shares, of at least $5.00 (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification), the Company shall sell the Pledged Shares or such other publicly-traded securities for cash and apply the proceeds of the such sale, of the Pledged Shares, *pro rata*, first to prepay in full the indebtedness evidenced by the Notes, including any accrued and unpaid interest thereon, plus the either the Premium Amount or the Bonus Payment, as further provided below.

(b) If the total net cash proceeds received by the Company in connection with the Mandatory Prepayment Event are less than or equal to $5 per Pledged Share, as adjusted for any stock split, stock dividend, combination or other recapitalization or reclassification with respect to the Pledged Shares (the "Wugen Proceeds"), no Bonus Payment will be due, and the Company shall pay the Premium Amount. If the Wugen Proceeds are greater than $5 per Pledged Share, a Bonus Payment, calculated in accordance with Section 6 below, will be due, and the Company shall not be obligated to pay the Premium Amount.

(2) Pledged Shares must be freely tradeable, with all marketing restrictions expired, including a 180-day lockup requirement that is typical of Initial Public Offerings and Merger Events.

(3) (c) All Purchasers will participate in the Mandatory Prepayment event Event and the Notes, including principal, accrued interest thereon, and the Premium Amount or the Bonus Payment, as the case may be, will be prepaid to Purchasers as provided in this Section 4.

(4) (d) In order to effect the sale of the Pledged Shares, Purchasers agree to release the Pledged Shares from escrow so that the Company may sell or exchange the Pledged Shares. Shares as and when necessary in connection with the Mandatory Prepayment Event. The Company shall notify the Purchasers of a qualifying event Mandatory Prepayment Event and agrees to effect the sale of Pledged Shares or other publicly-traded securities, as the case may be, within fifteen (15) business days from the time the Pledged Shares are removed from escrow. or other securities have become freely tradeable as provided above. The Company will instruct the institutional broker to wire proceeds directly to each Purchaser in the amount of Note, outstanding under the Note(s) held by such Purchaser, including principal, accrued interest thereon,

and the Premium Amount. Amount or the Bonus Payment, as the case may be. Any proceeds remaining will be wired directly to the Company.

(ii) Qualifying event related to the acquisition of Wugen Inc. by another entity for cash or publicly-traded securities:

(1) (e) In the event that Wugen Inc. the Company is acquired by an required to sell less than all of the Pledged Shares to another entity (other than the Company) for cash or publicly-traded publicly traded securities prior (i) the total net cash proceeds of such sale (the "Segregated Proceeds") shall remain subject to the Pledge Agreement and shall be placed in a segregated account for the benefit of the Noteholders until the earlier of a Mandatory Prepayment Event or the Maturity Date, and (ii) the amount of the Wugen Proceeds, for purposes of determining the amount of the Bonus Payment, if any, that is due and payable to the Noteholders, shall be the quotient of (x) the sum of the aggregate amount of any and all Segregated Proceeds plus the total net cash proceeds received by the Company will pay Purchaser full indebtedness evidenced by in connection with the Notes, including Mandatory Prepayment Event as adjusted for any accrued and unpaid interest thereon, plus Premium Amount.

(2) In the event that Wugen Inc. is acquired by an entity for publicly-traded securities prior stock split, stock dividend, combination or other recapitalization or reclassification with respect to the Maturity Date, the Company will follow the same procedures described in Subsection (i) above.

Pledged Shares, divided by (y) 2,174,311.

(f) For purposes of this Section 4, the following capitalized terms used in this Agreement shall have the respective meanings set forth below:

"Mandatory Prepayment Event" means the occurrence of (i) an Initial Public Offering, Merger Event or sale of all of the shares of common stock of Wugen, Inc., including the Pledged

Shares, to another entity (other than the Company), for cash or publicly-traded securities, and (ii) in the case of a Merger Event or sale in which the Company receives publicly traded securities or an Initial Public Offering, the Pledged Shares or publicly-traded securities received by the Company in connection with such transaction having become freely tradeable, with all marketing restrictions expired, including a 180-day lockup requirement that is typical of such transactions.

"Initial Public Offering" means an underwritten initial public offering of Wugen common stock pursuant to an effective registration statement filed under the Securities Act (as defined below), covering the offer and sale of its common stock that results in the listing of the Wugen common stock on the New York Stock Exchange, New York Stock Exchange American or the Nasdaq Stock Market.

"Merger Event" means (i) any merger or other similar transaction to which Wugen is a party as a result of which Wugen's common stock, in whole or in part, is converted into or exchanged for cash or publicly-traded securities of any successor entity or (ii) the

sale, lease, exchange, exclusive, irrevocable license or other transfer of all or substantially all of Wugen's properties or assets (as determined on a consolidated basis) to any successor entity (other than to the Company). for cash or publicly-traded securities.

5. **Bonus Payment.** If the Notes are not repaid until the Maturity Date or if a Mandatory Prepayment Event occurs, the Company shall pay each of the Purchasers a bonus payment ("Bonus Payment") calculated as provided below under the following respective circumstances, in lieu of paying the Premium Amount:

(a) If a Mandatory Prepayment Event occurs in connection with which the Wugen Proceeds are greater than $5 per share but less than or equal to $20,000,000 in the aggregate, the Bonus Payment to each Purchaser shall be an amount equal to (i) such Purchaser's Bonus Allocation Percentage (defined below), multiplied by (ii) an amount equal to 17% of the Wugen Proceeds.

(b) If a Mandatory Prepayment Event occurs in connection with which the Wugen Proceeds exceed $20,000,000 in the aggregate, the Bonus Payment to each Purchaser shall be an amount equal to (i) such Purchaser's Bonus Allocation Percentage (defined below), multiplied by (ii) an amount equal to 18% of the Wugen Proceeds.

(c) If repayment of the Notes occurs on the Maturity Date and the Wugen shares are not freely tradeable, the Bonus Payment to each Purchaser shall be an amount equal to (i) such Purchaser's Bonus Allocation Percentage (defined below), multiplied by (ii) an amount equal to $3,400,000 (*i.e.*, 17% of $20,000,000).

(d) As used herein, the term "Bonus Allocation Percentage" with respect to any Purchaser shall mean the percentage, expressed as a decimal, determined by dividing (i) the outstanding principal amount of the Note(s) held by such Purchaser by (ii) $10,000,000.

6. **Prospective Negotiation of Note Conversion Option.** The Company agrees that, following the final resolution (whether by settlement, dismissal with prejudice or final ruling from which no further appeal may be taken) of the arbitration proceedings currently pending before JAMS to which the Company is a party, styled as *Altor BioScience, LLC and NantCell, Inc. v. Hing C. Wong and HCW Biologics Inc.* (the "Arbitration"), it will negotiate in good faith with appropriate representatives of the Purchasers terms and conditions for addition of a conversion feature, by amendment to this Agreement, providing for conversion of all of the Notes into shares of the Company's common stock at the option of Purchasers holding more than 50% of the total principal amount of Notes then outstanding (the "Conversion Option"). Such terms and conditions are anticipated to include the following and such other or further terms and conditions as may be mutually agreed:

(a) The Conversion Option would become exercisable if the Company has received a bona fide offer for the purchase of shares of the Company's common stock

to be issued by the Company in exchange for at least $5,000,000 (a "Qualified Equity Financing"). (b) The conversion price per share will be calculated based on the total outstanding principal and accrued interest under all of the Notes plus the total Premium Amount with respect to all of the Notes (the "Conversion Amount").

(c) The price per share for the conversion of the Conversion Amount will be the lesser of the following;

(i) at least 65% of the price per share set forth in the offer with respect to the Qualified Equity Financing, or

(ii) the price per share derived by assuming that the Company's then current total equity value (market capitalization), pre-money with respect to the Qualified Equity Financing, is $75,000,000.

(d) Purchasers will be subject to a lock-up period of approximately 180 days during which shares of common stock issued upon conversion will not be sold or transferred.

7. **Representations and Warranties of the Company.** The Company hereby represents and warrants to each Purchaser that:

4131-2309-9215.4

(a) **Organization, Good Standing and Qualification.** The Company is a corporation duly organized, validly existing and in good standing under the laws of the state of Delaware and has all requisite corporate power and authority to carry on its business as now conducted and as proposed to be conducted. The Company is duly qualified to transact business and is in good standing in each jurisdiction in which the failure to so qualify would have a material adverse effect on its business or properties.

(b) **Authorization.** This Agreement and the Notes have been duly authorized by the Board of Directors of the Company. This Agreement and the Notes, when executed and delivered by the Company, shall constitute valid and legally binding obligations of the Company, enforceable against the Company in accordance with their respective terms except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and other laws of general application affecting enforcement of creditors' rights generally, and as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

(c) **Waiver from Wugen.** The Company represents that it has obtained a waiver from Wugen and certain of its stockholders to various transfer restrictions set forth in the Amended and Restated Right of First Refusal and Co-Sale Agreement, dated July 9, 2021, by and between Wugen and those stockholders.

(c) **Disqualification.** The Company is not disqualified from relying on Rule 506 of Regulation D ("Rule 506") under the Securities Act of 1933, as amended (the "Securities Act") for any of the reasons stated in Rule 506(d) in connection with the issuance and sale of the Notes to the Purchasers. The Company has furnished to each

Purchaser, a reasonable time prior to the Closing Date, a description in writing of any matters that would have triggered disqualification under Rule 506(d) but which occurred before September 23, 2013, in each case, in compliance with the disclosure requirements of Rule 506(e).

6.8.**Representations and Warranties of the Purchasers.** Each Purchaser hereby represents and warrants to the Company that:

(a) **Authorization.** Such Purchaser has full power and authority to enter into this Agreement. This Agreement, when executed and delivered by the Purchaser, will constitute a valid and legally binding obligation of the Purchaser, enforceable in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors' rights generally, and as limited by laws relating to the availability of a specific performance, injunctive relief, or other equitable remedies.

(b) **Purchase Entirely for Own Account.** This Agreement is made with the Purchaser in reliance upon the Purchaser's representation to the Company, which by the Purchaser's execution of this Agreement, the Purchaser hereby confirms, that the Note to be acquired by the Purchaser will be acquired for investment for the Purchaser's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that the Purchaser has no present intention of selling, granting any participation in, or otherwise distributing the same. By executing this Agreement, the Purchaser further represents that the

Purchaser does not presently have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participations to such person or to any third person, with respect to the Note. The Purchaser either has not been formed for the specific purpose of acquiring the Note, or each beneficial owner of equity securities of or equity interests in the Purchaser is an accredited investor as defined in Rule 501(a) of Regulation D promulgated under the Securities Act.

(c) **Knowledge.** The Purchaser is aware of the Company's business affairs and financial condition and has acquired sufficient information about the Company to reach an informed and knowledgeable decision to acquire the Note.

(d) **Restricted Securities.** The Purchaser understands that the Note has not been, and will not be, registered under the Securities Act, by reason of a specific exemption from the registration provisions of the Securities Act which depends upon, among other things, the bona fide nature of the investment intent and the accuracy of the Purchaser's representations as expressed herein. The Purchaser understands that the Note is a "restricted security" under applicable U.S. federal and state securities laws and that, pursuant to these laws, the Purchaser must hold the Noteindefinitely unless they are registered with the Securities and Exchange Commission and qualified by state authorities, or an exemption from such registration and qualification requirements is available. The Purchaser acknowledges that the Company has no obligation to register or qualify the Note for resale. The Purchaser further acknowledges that if an exemption

from registration or qualification is available, it may be conditioned on various requirements including, but not limited to, the time and manner of sale, the holding period for the Note, and on requirements relating to the Company which are outside of the Purchaser's control, and which the Company is under no obligation and may not be able to satisfy.

(e) **No Public Market.** The Purchaser understands that no public market now exists for the Note, and that the Company has made no assurances that a public market will ever exist for the Note.

(f) **Legends.** The Purchaser understands that the Note may bear one or all of the following legends:

(i) "THE NOTE REFERENCED HEREIN HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933, AS AMENDED."

(ii)Any legend required by the securities laws of any state to the extent such laws are applicable to the Note.

(g) **Restrictions on Security**. The Purchaser acknowledges that the market for the Pledged Shares may be illiquid and, accordingly, the Purchaser may not be able to

liquidate the Pledged Shares following receipt thereof upon an Event of Default (as defined in the Note) and

that the Pledged Shares are subject to the various transfer restrictions set forth in Section 3 of that certain Common Stock Issuance Agreement, dated December 24, 2020 as amended on July 9, 2021, by and between the Company and Wugen, Inc. and any amendments or supplements thereto, including any market standoff provisions, as well as certain rights of first refusal, co-sale rights and other rights that expire following the Initial Public Offering or Merger Event.

(h) **Accredited Investor.** The Purchaser is an accredited investor as

defined in Rule 501(a) (1), (2), (3) or (7) of Regulation D promulgated under the Securities Act.

(i) **Disqualification.** The Purchaser represents that neither the Purchaser, nor any person or entity with whom the Purchaser shares beneficial ownership of Company securities, is subject to any of the "Bad Actor" disqualifications described in Rule 506(d)(1)(i) to (viii) under the Securities Act. Each Purchaser also agrees to notify the Company if such Purchaser or any person or entity with whom such Purchaser shares beneficial ownership of Company securities becomes subject to such disqualifications after the Closing Date (so long as such Purchaser or any such person beneficially owns any equity securities of the Company).

(j) **Foreign Investors.** If a Purchaser is not a United States person (as defined by Rule 902(k) under the Securities Act), such Purchaser hereby represents that it has satisfied itself as to the full observance of the laws of its jurisdiction in connection with any invitation to subscribe for the Note or any use of this Agreement, including (i) the legal requirements within its jurisdiction for the purchase of the Note, (ii) any foreign exchange restrictions applicable to such purchase, (iii) any governmental or other consents that may need to be obtained and (iv) the income tax and other tax consequences, if any, that may be relevant to the purchase, holding, redemption, sale or transfer of the Note. Such Purchaser's subscription and payment for, and his or her continued beneficial ownership of the Note, will not violate any applicable securities or other laws of the Purchaser's jurisdiction.

(k) **Foreign Investment Regulations.** Each Purchaser represents that any consideration to be paid for the Note pursuant to this Agreement does not derive from activity that is or was contrary to law or from a person or location that is or was the subject of a United States embargo or other economic sanction and that no consideration to be paid for the Note in accordance with this Agreement will provide the basis for liability for any person under United States anti-money laundering laws or economic sanctions laws. Each Purchaser represents that neither such Purchaser nor any of its nominees or affiliates is on the specially designated OFAC list or similar European Union watch list.

7. 9. **Collateral Agent**. The Company hereby appoints Mercedes M. Sellek, P.A., as Collateral Agent to act for the Purchasers as collateral agent (the "Collateral Agent"), to hold the Pledged Shares for the benefit of the Purchasers.

8. 10. **Conditions of the Purchasers' Obligations at Closing.** The obligations of each Purchaser to the Company under this Agreement are subject to the fulfillment, on or before the Closing, of each of the following conditions, unless otherwise waived:

(a) **Representations and Warranties.** The representations and warranties of the Company contained in Section 5 hereof shall be true on and as of the Closing with the same

effect as though such representations and warranties had been made on and as of the date of the Closing.

(b) **Qualifications.** All authorizations, approvals or permits, if any, of any governmental authority or regulatory body of the United States or of any state that are required in connection with the lawful issuance and sale of the Note pursuant to this Agreement shall be obtained and effective as of the Closing.

(c) **Collateral Agent**. The Company shall have appointed Mercedes M. Sellek, P.A., as Collateral Agent in accordance with Section 7 of this Agreement and the Escrow Agreement.

(d) **Pledge Agreement.** The Company and the Collateral Agent shall have executed the Pledge Agreement.

9.11. **Conditions of the Company's Obligations at Closing.** The obligations of the Company to each Purchaser under this Agreement are subject to the fulfillment, on or before the Closing, of each of the following conditions, unless otherwise waived:

(a) **Representations and Warranties.** The representations and warranties of each Purchaser contained in Section 6 hereof shall be true on and as of the Closing with the same effect as though such representations and warranties had been made on and as of the Closing.

(b) **Qualifications.** All authorizations, approvals or permits, if any, of any governmental authority or regulatory body of the United States or of any state that are required in connection with the lawful issuance and sale of the Note pursuant to this Agreement shall be obtained and effective as of the Closing.

(c) **Delivery of Form W-8 BEN or Form W-9.** Each Purchaser shall have completed and delivered to the Company a validly executed IRS Form W-8 BEN or IRS Form W-9, as applicable, establishing such Purchaser's exemption from withholding tax as required by the tax authority of the Company's or Purchase's respective jurisdiction.

10.12. **Finder's Fee.** Each Purchaser represents that it neither is nor will be obligated for any finder's fee or commission in connection with this transaction. The Company agrees to indemnify and hold harmless each Purchaser from any liability for any commission or compensation in the nature of a finder's fee (and the costs and expenses of defending against such liability or asserted liability) for which the Company or any of its officers, employees or representatives is responsible.

11.13. **Exculpation Among Purchasers.** Each Purchaser acknowledges that it is not relying upon any person, firm or corporation, other than the Company and its officers and directors, in making its investment or decision to invest in the Company. Each Purchaser agrees that none of the other Purchasers nor the respective controlling persons, officers, directors, partners, agents, or employees of such other Purchaser shall be liable for any action heretofore or hereafter taken or omitted to be taken by any of them in connection with the Note.

12. 14. **Expenses.** Each of the Purchasers and the Company agree to pay its own respective costs and expenses in connection with the preparation, execution, and delivery of this Agreement and the Note.

13. 15. **Miscellaneous.**

(a) **Governing Law.** The validity, interpretation, construction and performance of this Agreement, and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto shall be governed, construed and interpreted in accordance with the laws of the state of New York, without giving effect to principles of conflicts of law.

(b) **Entire Agreement.** This Agreement, and the documents referred to herein constitute the entire agreement between the parties hereto pertaining to the subject matter hereof, and any and all other written or oral agreements existing between the parties hereto are expressly canceled.

(c) **Amendments and Waivers.** Any term of this Agreement may be amended or waived only with the written consent of the Company and the holders of at least a majority of the aggregate unpaid principal amount of the Notes. Any amendment or waiver effected in accordance with this Section 13(c) 15(c) shall be binding upon each Purchaser and each transferee of the Notes, each future holder of all such Notes, and the Company.

(d) **Successors and Assigns.** Except as otherwise provided in this Agreement, this Agreement, and the rights and obligations of the parties hereunder, will be binding upon and inure to the benefit of their respective successors, assigns, heirs, executors, administrators and legal representatives. The Company may assign any of its rights and obligations under this Agreement. No other party to this Agreement may assign, whether voluntarily or by operation of law, any of its rights and obligations under this Agreement, except with the prior written consent of the Company.

(e) **Notices.** Any notice, demand or request required or permitted to be given under this Agreement shall be in writing and shall be deemed sufficient when delivered personally or by overnight courier or sent by email, or 48 hours after being deposited in the U.S. mail as certified or registered mail with postage prepaid, addressed to the party to be notified at such party's address as set forth on the signature page, as subsequently modified by written notice, or if no address is specified on the signature page, at the most recent address set forth in the Company's books and records.

(f) **Severability.** If one or more provisions of this Agreement are held to be unenforceable under applicable law, the parties agree to renegotiate such provision in good faith. In the event that the parties cannot reach a mutually agreeable and enforceable replacement for such provision, then (i) such provision shall be excluded from this Agreement, (ii) the balance of the Agreement shall be interpreted as if such provision were so excluded and (iii) the balance of the Agreement shall be enforceable in accordance with its terms.

(g) **Construction.** This Agreement is the result of negotiations between and has been reviewed by each of the parties hereto and their respective counsel, if

any; accordingly,

-8-

-10-

4131-2309-9215.4

this Agreement shall be deemed to be the product of all of the parties hereto, and no ambiguity shall be construed in favor of or against any one of the parties hereto.

(h) **Counterparts.** This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and all of which together shall constitute one and the same agreement. Execution of a facsimile or scanned copy will have the same force and effect as execution of an original, and a facsimile or scanned signature will be deemed an original and valid signature.

[Signature Pages Follow]

-9-

-11-

4131-2309-9215.4

The parties have executed this Amended and Restated Senior Secured Note Purchase Agreement as of the date first written above.

THE COMPANY:

HCW BIOLOGICS INC.

By:/s/
Name: Hing C. Wong
Title: CEO Chief Executive Officer

Address:

2929 N Commerce Pkwy
Miramar, FL 33025

Email:
HingWong@hcwbiologics.comhingwong@hcwbiologics.com

4131-2309-9215.4

The parties have executed this Amended and Restated Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

O'NEILL AAF LLC

By:
Name: GEORGE D. O'NEILL JR.
Title: Manager
Address: [***]
Email: [***]

THE PURCHASERS:

BENJAMIN J. PATZ **HING C. WONG**
(PRINT NAME)

By:
Name: HING C. WONG
Address: [***]
Email: [***]

***/S/* BENJAMIN J. PATZ** **CHRIS CHEUNG & LING CHEUNG**

By:
(Signature) Name: CHRIS CHEUNG & LING CHEUNG
Address: [***]
Email: [***]

NAME: MICHAEL POON & MANWAH WONGBENJAMIN J. PATZ

By:
Name: MICHAEL POON & MANWAH WONG
Address: [***]
Email: [***]

TITLE: HO CHEUNG WONG

By:
Address:
[***]Name: HO CHEUNG WONG
[* Address: [***]
Email: [***]

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

CHRIS CHEUNG & LING CHEUNG HOI SANG 'KELLY' YEUNG
(PRINT NAME)

By: /s/ Chris Cheung
(Signature) Name: HOI SANG 'KELLY' YUENG
By: /s/ Ling Cheung
(Signature)

Name: Chris Cheung and Ling Cheung
Title:

Address:
[* [***]
[* Email: [***]

EMAIL: R. KEMP RIECHMAN TRUSTEE REVOCABLE TRUST OF ROLAND KEMP RIECHMANN

By:
Name: R. KEMP RIECHMAN
Title: TRUSTEE

Address: [***]
Email: [***]

BENJAMIN J. PATZ

By:
Name: BENJAMIN J. PATZ
Address: [***]
Email: [***]

REBECCA BYAM

By:
Name: REBECCA BYAM
Address: [***]
Email: [***]

GARY WINER

By:

Name: GARY WINER
Address: [***]
Email: [***]

4131-2309-9215.4

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

GARY M. WINER **SCOTT GARRETT**
(PRINT NAME)

By: /s/ Gary M. Winer
(Signature) Name: SCOTT GARRETT
Name:
Title:

Address:
[***]
[***]
Email: [***]

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

HO CHEUNG WONG
(PRINT NAME)

By:/s/ Ho Cheung Wong
(Signature)

Name: Ho Cheung Wong
Title:

Address:
[***].
[***]

Email: [***]

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

HOI SANG YEUNG
(PRINT NAME)

By: /s/ Hoi Sang Yeung
(Signature)

Name:
Title:

Address:
[***]
[***]
Email: [***]

4131-2309-9215.4

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

R. KEMP RIECHMANN TRUSTEE
REVOCABLE TRUST OF ROLAND
KEMP RIECHMANN
(PRINT NAME)

By: /s/ Kemp Riechmann
(Signature)

Name: R. Kemp Riechmann
Title: Trustee

Address:
[***]
[***]
Email: [***]

4131-2309-9215.4

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

LMV HOLDING
(PRINT NAME)

By: /s/ Cornelis Van De Velde
(Signature)

Name:CORNELIS VAN DE VELDE
Title:CEO

Address:
[***]
[***]
Email:

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

MICHAEL POON & MANWAH WONG
(PRINT NAME)

By: /s/ Michael Poon
(Signature)

By: /s/ Manwah Wong
(Signature)

Name: MICHAEL POON & MANWAH WONG
Title:

Address:
[***]
[***]
Email: [***]

4131-2309-9215.4

The parties have executed this Senior Secured Note Purchase Agreement as of

the date first written above.

THE PURCHASERS:

REBECCA BYAM
(PRINT NAME)

By:/s/ Rebecca Byam
(Signature)

Name: Rebecca Byam
Title:

Address:
[***]
[***]
Email: [***]

4131-2309-9215.4

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE COMPANY:

HCW BIOLOGICS INC.

By:/s/ Rebecca Byam
Title: CFO
Address:

2929 N Commerce Pkwy
Miramar, FL 33025

Email: rebeccabyam@hcwbiologics.com

The parties have executed this Senior Secured Note Purchase Agreement as of the date first written above.

THE PURCHASERS:

HING C. WONG
(PRINT NAME)

By: /s/ Hing C. Wong
(Signature)

Name: Hing C. Wong
Title:

Address:
[***]
[***]
Email: [***]

EXHIBIT A

SENIOR SECURED PROMISSORY NOTE

[***]

4131-2309-9215.4

EXHIBIT B

SCHEDULE OF PURCHASERS AND PRO RATA INTEREST CALCULATION

Name	Note Principal Amount	Purchase Date
Dr. Hing C Wong	$620,000	03/28/24
Chris Cheung & Ling Cheung	200,000	03/28/24
Michael Poon & Manwah Wong	100,000	03/28/24
Ho Cheung Wong	60,000	03/28/24
Hoi Sang Yeung (Kelly)	250,000	03/28/24
R. Kemp Riechmann Trustee Revocable Trust of Roland Kemp Riechmann	250,000	03/28/24
Benjamin J. Patz	250,000	03/28/24

Rebecca Byam	220,000	03/28/24
Gary M. Winer	50,000	03/28/24
LMV Holding	8,000,000	03/28/24
Total Secured Loan	**$10,000,000**	

Name	Principal Amount	Pro Rata Interest	Purchase Date
Dr. Hing C. Wong	$ 620,000	6.20%	3/28/2024
Dr. Hing C. Wong	1,600,000	16.00%	5/13/2024
Chris Cheung and Ling Cheung	200,000	2.00%	3/28/2024
Michael Pool and Manwah Wong	100,000	1.00%	3/28/2024
Ho Cheung Wong	60,000	0.60%	3/28/2024
Ho Sang Yeung (Kelly)	250,000	2.50%	3/28/2024
R. Kemp Riechmann Trustee Revocable Trust of Roland Kemp Riechmann	250,000	2.50%	3/28/2024
Benjamin J. Patz	250,000	2.50%	3/28/2024
Rebecca Byam	220,000	2.20%	3/28/2024
Gary M. Winer	50,000	0.50%	3/28/2024
Gary M. Winer	10,000	0.10%	6/14/2024
Scott Garrett	90,000	0.90%	6/14/2024
O'Neill AAF LLC	1,500,000	15.00%	7/2/2024
Available for Issuance	4,800,000	48.00%	up to 8/30/2024
Total Secured Notes	$ 10,000,000	100.00%	

EXHIBIT C

WIRE INSTRUCTIONS
[***]

4131-2309-9215.4

EXHIBIT D

PLEDGE AGREEMENT

[***]

Exhibit 10.5

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE AND CONFIDENTIAL.

FORM OF COMMON STOCK SUBSCRIPTION AGREEMENT

THIS COMMON STOCK SUBSCRIPTION AGREEMENT (this "Agreement") is made as of the date set forth on the signature page hereof between HCW BIOLOGICS INC., a Delaware corporation (the "Company"), and the [Name of Investor of Investment Entity], (the "Subscriber").

10.2

WITNESSETH:

WHEREAS, the Company desires to issue to the Subscriber the number of shares (the "Shares") of its Common Stock, par value $.0001 per share (the "Common Stock") set forth at the end of this Agreement, and;

WHEREAS, the Subscriber desires to acquire the Shares (being sometimes referred to collectively herein as the "Securities") on the terms and conditions hereinafter set forth;

NOW, THEREFORE, in consideration of the premises and the mutual representations and covenants hereinafter set forth, the Company and the Subscriber do hereby agree as follows:

A. SUBSCRIPTION FOR SHARES AND REPRESENTATIONS BY SUBSCRIBER

a. Subject to the terms and conditions of this Agreement, the Company will issue and sell to the Subscriber and the Subscriber subscribes for and will purchase from the Company Shares for the aggregate purchase price ("Purchase Price") set forth at the end of this Agreement, which shall be equal to the product of the number of Shares subscribed for by Subscriber times the per share purchase price equal to the greater of: (x) the closing sales price for the Company's common stock as quoted on the Nasdaq Stock Market on the date of Closing (as defined below) and (y) $1.40, and the Subscriber hereby subscribes for and agrees to purchase from the Company the Shares, for said price per share. The rights and preferences of the Common Stock are set forth in the Restated Certificate of Incorporation of the Company.

b. The closing of the purchase and sale of the Shares under this Agreement (the "Closing") shall occur on a date designated by the Company, which date shall be on or before February 20, 2024 (the "Purchase Date"). The Closing shall take place at the principal office of the Company, or at such other time and place as the Company and the Subscribe mutually agree. At the Closing, unless the Subscriber and the Company otherwise agree (i) the Subscriber shall pay the Purchase Price to the Company: (a) by wire transfer of immediately available funds to the Company's operating account designated on Exhibit A hereto or (b) by check made payable to the Company, so long as the check is provided with sufficient time that funds are cleared by the Closing Date; and (ii) the Company shall cause its transfer agent to create a book entry representing the Shares to be purchase Subscriber (which shall be issued in Subscriber's name).

c. This Agreement may be terminated at any time prior to the Closing:

(1) by mutual written consent of the Company and the Subscriber;

(2) by the Subscriber, upon a breach of any material representation and warranty, covenant or agreement on the part of the Company set forth in this Agreement, or if any material representation and warranty of the Subscriber shall have become untrue in any material respect, in either case such that the conditions in Section C.a. would be incapable of be satisfied by the date of the Closing; or

---

(3) by the Company upon a breach of any material representation and warranty, covenant or agreement on the part of the Subscriber set forth in this Agreement, or if any material representation and warranty of the Subscriber shall have become untrue in any material respect, in either case such that the conditions in Section C.b. below would be incapable being satisfied by the date of the Closing.

In the event of termination of this Agreement pursuant to this paragraph, this Agreement shall forthwith become void, there shall be no liability on the part of the Company or the Subscriber to each other and all rights and obligations of any party hereto shall cease; provided, however, that nothing herein shall relieve any party from liability for the willful breach of any of its representations and warranties, covenants or agreements set forth in this Agreement.

d. The Subscriber recognizes that the purchase of the Shares involves a high degree of risk in that (i) the Company is an early-stage biotechnology company with no revenues from the commercial sale of its products and requires substantial funds in addition to the proceeds of this transaction, particularly in light of the risks and the Company's ongoing expenditures in connection with defending against the allegations of misappropriation of trade secrets, inducement of breach of contract and breach of fiduciary duty, among oth claims against the Company, raised by Altor BioScience, LLC and NantCell, Inc. in the current arbitration proceedings involving the Company; (ii) an investment in the Company highly speculative, and only investors who can afford the loss of their entire investment should consider investing in the Company; (iii) the Subscriber may not be able to liquidat investment; (iv) transferability of the Securities is limited, and (v) in the event of a disposition, the Subscriber could sustain the loss of his entire investment.

e. The Subscriber represents that he is acquiring the Shares hereunder for investment, and that he is able to bear the economic risk of an investment in the Shares.

f. The Subscriber acknowledges that he recognizes the highly speculative nature of this investment; and he is able to bear the economic risk he hereby assumes.

g. The Subscriber hereby represents that he is aware of the Company's business affairs and financial condition and has been furnished by the Company during the course of this transaction with sufficient information about the Company to reach an informed and knowledgeable decision to acquire the Securities; and that he has been afforded the opportu to ask questions of and receive answers from duly authorized officers or other representatives of the Company concerning the terms and conditions of this offering, and any additional information which he had requested.

h. The Subscriber hereby acknowledges that this offering of the Shares has not been reviewed by the United States Securities and Exchange Commission (the "Commission") or a state regulatory authority, since this offering is intended to be exempt from the registration requirements of Section 5 of the Act pursuant to Section 4(a)(2) of the Act and Rule 5(Regulation D of the Commission. The Subscriber represents that the Shares are being purchased for his own account, for investment and not for distribution or resale to others.

i. The Subscriber understands that the Securities have not been registered under the Act or any state securities or "blue sky" laws and are being sold in reliance on exemptions fr the registration requirements of such Act and such laws and agrees that the Securities will not be resold or transferred except as permitted under such Act and such laws pursua to registration or exemption therefrom. The Subscriber further acknowledges that the Company has no obligation to register or qualify the Securities for resale.

j. The Subscriber consents to the placement of a legend on any book entry, certificate or other document evidencing the Shares as follows:

THE SHARES OF COMMON STOCK REPRESENTED HEREBY SECURITIES REFERENCED HEREIN HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD OR TRANSFERRED UNLESS THE REGISTRATION PROVISIONS OF THE SAID ACT HAVE BEEN COMPLIED ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR UNLESS IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY

BOTH AS TO THE IDENTITY OF THE COUNSEL AND AS TO THE FORM AND SUBSTANCE OF THE OPINION, COMPLIANCE WITH THAT SUCH PROVISIONS REGISTRATION IS NOT REQUIRED.
REQUIRED UNDER THE SECURITIES ACT OF 1933, AS AMENDED.

SENIOR SECURED PROMISSORY NOTE

k. $_____ The Subscriber agrees

July 2, 2024

_____, United States

For value received, HCW BIOLOGICS INC., a Delaware corporation (the "Company"), promises to pay to __ "Holder"), the principal sum of _____ ($_____) or such lesser amount as is advanced by the Holder order to ensure compliance with the restrictions referred to herein, certain Senior Secured Note Purchase Agreement, dated the Company, may issue appropriate "stop transfer" instructions to its transfer agent the Holder and that, if the Company tran may make appropriate notations to the same effect in its own records.

l. Neither the Company nor its transfer agent shall be required (i) to transfer on its books any each of the Shares that have been sold other purchasers listed on Exhibit B attached thereto (as amended, restated or otherwise transferred in violation of any of modified from time to time, the provisions "Note Purchase Agreement"). Interest shall accrue from the date of this Agreement or (ii) to treat as owner of such Shares or to accord the right to vote or pay dividends to any purchaser or other transferee to whom such Shares shall have been so transferred.

Secured Promissory Note (this "B. Note REPRESENTATIONS BY, AND COVENANTS OF, THE COMPANY

a. The Company represents and warrants to the Subscriber that ") on the date hereof:

(1) The Company is unpaid principal amount then outstanding at a corporation duly organized, existing and in good standing under rate equal to nine percent (9%) per annum (the "Interest Rate"), computed as simple interest on the laws basis of the State a year of Delaware and has the corporate power to issue and sell the Shares to the Subscriber;

(2) The Shares have been duly and validly authorized and, when issued and paid for in accordance with the terms hereof, will be duly and validly issued, fully paid and nonassessable;

b. The copies of the Restated Certificate of Incorporation and Restated By-Laws of the Company as currently in effect which have heretofore been delivered to the Subscriber are true, complete and correct.

C. CLOSING CONDITIONS

a. The obligations of the Subscriber to proceed with respect to its purchase of the Shares at the Closing 365 days. This Note is subject to the following conditions terms and conditions.

1. **Basic Terms.**

(a) **Interest Payments; Maturity.** Accrued interest on this Note shall be payable quarterly in arrears in U.S. dollars on the first business day of each fiscal quarter of the Company, beginning on the first day of the fiscal quarter following the date of this Note. Principal and any accrued but unpaid interest under this Note shall be due and all payable on August 30, 2026 (the "Maturity Date"). Interest shall accrue on this Note and shall be due and payable with each installment of which principal. Notwithstanding the foregoing, the entire unpaid principal sum of this Note together with accrued and unpaid interest thereon, shall become immediately due and payable upon the occurrence and during the continuance of an Event of Default (as defined below).

(b) **Payment; Prepayment.** All payments from the Company to Holder shall be made in U.S. dollars at such place as the Holder hereof may from time to time designate in writing to the Company. Payment shall be credited first to the accrued interest then due and payable and the remainder shall be applied to principal. This Note may be waived, prepaid in whole or in part prior to the Maturity Date as provided in Sections 4 and 5 of the Note Purchase Agreement, as the case may be.

If the Company elects or is required to redeem this Note pursuant to this Section 1(b), the Company shall give notice of such prepayment to Holder not less than ten (10) calendar days prior to the date fixed for prepayment, specifying (a) the date on which such prepayment is to be made, (b) the principal amount of the Note to be redeemed on such date, and (c) the applicable Premium Amount (as defined in the Note Purchase Agreement) or Bonus Payment (as defined in the Note Purchase Agreement), if any, to be made concurrently with the prepayment.

2. **Conversion.** If the indebtedness under this Note is converted into shares of common stock of the Company pursuant to terms and conditions determined pursuant to Section 7 of the Note Purchase Agreement, Holder shall surrender this Note on the conversion date and surrender all rights hereunder.

3. **Stockholders, Officers and Directors Not Liable.** In no event shall any stockholder, officer or director of the Company be liable for any amounts due or payable pursuant to this Note.

4. **Interest Rate Limitation.** Notwithstanding anything to the contrary contained in this Note, Holder represent that the interest paid or agreed to be paid under this Note shall not exceed the maximum rate of non-usurious interest permitted by applicable law in their jurisdiction (the "Maximum Rate"). If the Holder shall receive interest in an amount that exceeds the Maximum Rate, the excess interest shall be applied to the principal remaining owed under this Note or, if it exceeds such unpaid principal, refunded to the Company. In determining whether the interest contracted for, charged, or received by the Holder exceeds the Maximum Rate, the Holder may, to the extent permitted by applicable law: law, (a) characterize any payment that is not principal as an expense, fee, or premium rather than interest, (b) exclude voluntary prepayments and the effects thereof, and (c) amortize, prorate, allocate, and spread in equal or unequal parts the total amount of interest throughout the contemplated term of this Note.

(1) 5.**Security**. The indebtedness evidenced by this Note shall be secured by a first priority security interest in the Company's equity ownership interest in Wugen, Inc. (the "Pledged Shares") in accordance with the provisions of an amended and restated pledge agreement among the Company and the Holders in the form attached as Exhibit D to the Note Purchase Agreement (the "Pledge Agreement"), and subject to the conditions set forth in the Note Purchase Agreement.

6. **Events of Default**. Upon the occurrence of any of the representations following events (each an "Event of Default"):

(a) The Company fails to pay any principal or interest when due hereunder within thirty (30) calendar days of the date the same becomes due and warranties payable;

(b) The Company shall have failed to perform any non-monetary obligation set forth in this Note, the Note Purchase Agreement or the Pledge Agreement which by its nature cannot be cured, or the Company shall fail to perform any other non-monetary obligation set forth in this Note the Note Purchase Agreement or the Pledge Agreement where such failure continues for a period of thirty (30) calendar days after written notice thereof by the Holder to the Company; provided, however, that if the nature of Company's failure is such that more than thirty (30) calendar days are required for its cure, the Company shall not be deemed to be in default if the

Company commences such cure within such thirty (30) day period and thereafter diligently prosecutes such cure to completion; or

(c) The Company shall (i) become insolvent or generally fail to pay, or admit in writing its inability or unwillingness to pay, debts as they become due; (ii) apply for, consent to or acquiesce in the appointment of a trustee, receiver, sequestrator or other custodian for the Company or any property thereof, or make a general assignment for the benefit of creditors; (iii) in the absence of such application, consent or acquiescence permit or suffer to exist the appointment of a trustee, receiver, sequestrator or other custodian for the Company or for a substantial part of the property thereof, and such trustee, receiver, sequestrator or other custodian shall not be discharged within thirty (30) calendar days; (iv) permit or suffer to exist

the commencement of any bankruptcy, reorganization, debt arrangement or other case or proceeding under any bankruptcy or insolvency law, or any dissolution, winding up or liquidation proceeding, in respect of the Company contained and, if any such case or proceeding is not commenced by the Company, such case or proceeding shall be consented to or acquiesced in by the Company or shall result in the entry of an order for relief or shall remain for thirty (30) calendar days undismissed; or (v) take any action authorizing, or in furtherance of, any of the foregoing;

then the Company will inform Holder that it failed to cure the Event of Default within the cure period and will proceed to effect an in-kind distribution from the Collateral Agent of the Holder's *pro rata* share of the Pledged Shares (as defined in the Pledge Agreement) in full satisfaction of the indebtedness evidenced by this Note, including any accrued and unpaid interest thereon.

Holder agrees to assume the transfer restrictions set forth in Section 3 of that certain Common Stock Issuance Agreement, dated December 24, 2020 as amended on July 9, 2021, by and between the Company and Wugen Inc., if such agreement is in effect at such time that there is a default event and Pledged Shares are distributed to Holder.

7. **Action to Collect on Note.** If action is instituted to collect on this Note, the Company promises to pay all of the Holder's costs and expenses, including reasonable attorney's fees, incurred in connection with such action.

8. **Loss of Note.** Upon receipt by the Company of evidence satisfactory to it of the loss, theft, destruction or mutilation of this Note or any Note exchanged for it, and indemnity satisfactory to the Company (in case of loss, theft or destruction) or surrender and cancellation of such Note (in the case of mutilation), the Company will make and deliver in lieu of such Note a new Note of like tenor.

9. **Miscellaneous.**

(a) **Governing Law.** The validity, interpretation, construction and performance of this Note, and all acts and transactions pursuant hereto and the rights and obligations of the Company and Holder shall be governed, construed and interpreted in accordance with the laws of the state of New York, without giving effect to principles of conflicts of law.

(b) **Entire Agreement.** This Note constitutes the entire agreement and understanding between the Company and the Holder relating to the subject matter herein and

---

supersedes all prior or contemporaneous discussions, understandings and agreements, whether oral or written between them relating to the subject matter hereof.

(c) **Amendments and Waivers.** Any term of this Note may be amended only with the written consent of the Company and the Holder. Any amendment or waiver effected in accordance with this Section 9(c) shall be binding upon the Company, the Holder and each transferee of this Note.

(d) **Successors and Assigns.** The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the Company and the Holder. Notwithstanding the foregoing, the Holder may not assign, pledge, or otherwise transfer this Note without the prior written consent of the Company. Subject to the preceding sentence, this Note may be transferred only upon surrender of the original Note for registration of transfer, duly endorsed, or accompanied by a duly executed written instrument of transfer in form satisfactory to the Company. Thereupon, a new note for the same principal amount and interest will be issued to, and registered in the name of, the transferee. Interest and principal are payable only to the registered holder of this Note.

(e) **Notices.** Any notice, demand or request required or permitted to be given under this Note shall be in writing and shall be deemed sufficient when delivered personally or by overnight courier or sent by email, or 48 hours after being deposited in the U.S. mail as certified or registered mail with postage prepaid, addressed to the party to be notified at such party's address as set forth on the signature page, as subsequently modified by written notice, or if no address is specified on the signature page, at the most recent address set forth in the Company's books and records.

(f) **Counterparts.** This Note may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and all of which together shall constitute one and the same instrument.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has executed this Senior Secured Promissory Note as of the date first set forth above.

THE COMPANY:

HCW BIOLOGICS INC.

By:
(Signature)

Title: _____

Address:
2929 Commerce Parkway
Miramar, FL 33025
United States
Email: _____

AGREED TO AND ACCEPTED:

THE HOLDER:

(PRINT NAME)

(Signature)

Address:

Email:

Exhibit 10.3

AMENDED AND RESTATED PLEDGE AGREEMENT

This AMENDED AND RESTATED PLEDGE AGREEMENT, dated as of July 2, 2024 (as the same may be amended, supplemented and/or otherwise modified from time to time, this "***Agreement***"), is entered into by and between HCW BIOLOGICS INC., a Delaware Corporation ("***Grantor***"), Mercedes M. Sellek P.A., a Florida corporation (together with its assigns, the "***Escrow Agent***"), and the other Noteholders (as defined below). The Grantor, the Escrow Agent, and the Noteholders may be referred to individually as a "**Party**" and collectively the "**Parties**."

RECITALS

A. Grantor and various noteholders (collectively, the "***Noteholders***") have entered into that certain Amended and Restated Note Purchase Agreement, dated as of the date hereof (as amended, amended and restated, supplemented or otherwise modified, renewed or replaced from time to time, the "***Note Purchase Agreement***"), pursuant to which the Noteholders have extended or will extend loans to Grantor on the terms and subject to the conditions set forth therein.

B. Grantor is the record and beneficial owner of equity interests in Wugen Inc., a Delaware corporation (the "***Pledged Company"***), and owns, as of the date hereof, 2,174,311 shares of the issued and outstanding common stock of the Pledged Company, representing approximately a 5 percent interest of the outstanding equity securities (whether consisting of capital stock, membership interests or otherwise) in the Pledged Company (such equity interest in the Pledged Company owned by Grantor, is hereafter a "***Pledged Share***" and all such shares collectively, the "***Pledged Shares***").

C As security of Grantor's obligations under the Note Purchase Agreement, the Noteholders have requested that Grantor enter into this Agreement and pledge the percentage of its interests in the Pledged Shares to the Noteholders, and to the Escrow Agent to serve as escrow agent under the terms set forth in that certain escrow agreement (the "***Escrow Agreement***") entered into by and between Grantor, the Noteholders, and the Escrow Agent, attached hereto as "Exhibit A" and incorporated by reference.

NOW, THEREFORE, in consideration of these premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto agree as follows:

ARTICLE I
DEFINITIONS

Section 1.1Definitions. Each term used herein that is defined in the UCC (as hereinafter defined) but is not separately defined herein has the meaning set forth in the UCC; subject to the foregoing, each capitalized term used but not otherwise defined herein has the meaning ascribed thereto in the Note Purchase Agreement. In addition, as used herein, the following terms shall have the following meanings:

"***Charter Documents***" means: (a) with respect to any corporation, the certificate or articles of incorporation and the bylaws (or equivalent or comparable constitutive documents with respect to any non-U.S. jurisdiction) of such Person; (b) with respect to any limited liability company, the certificate or articles of formation or organization and operating agreement (or equivalent or comparable constitutive documents with respect to any non-U.S. jurisdiction) of such Person; and (c) with respect to any partnership,

---

joint venture, trust or other form of business entity, the partnership, joint venture or other applicable agreement of formation or organization of such Person; and any agreement, instrument, filing or notice with respect thereto filed in connection with such Person's formation or organization with the applicable governmental authority in the jurisdiction of its formation or organization and, if applicable, any certificate or articles of formation or organization of such Person.

"***Discharge of Obligations***": the satisfaction or discharge in full of the Secured Obligations in accordance with the terms of the Note Purchase Agreement.

"***Permitted Liens***" has the meaning ascribed thereto in Section 3.1(d).

"Person" means an individual, partnership, limited partnership, limited liability company, corporation, trust, estate, association or any other entity.

"***Pledged Collateral***" has the meaning ascribed thereto in Section 2.1.

"***Secured Obligations***" means all present and future obligations of Grantor to the Noteholders arising under and in connection with the Note Purchase Agreement and all promissory notes executed in connection therewith, whether actual or contingent and whether owed or incurred alone or jointly and/or severally with another and as principal or as surety or in any other capacity or any nature, together with all interest (including default interest) accruing in respect of those monies, obligations or liabilities.

"***UCC***" means the Uniform Commercial Code as the same may, from time to time, be in effect in the State of New York; provided that, in the event that, by reason of mandatory provisions of law, any or all of the attachment, perfection or priority of the Escrow Agent's security interest in any collateral is governed by the Uniform Commercial Code as in effect in a jurisdiction other than the State of New York, the term "UCC" shall mean the Uniform Commercial Code as in effect in such other jurisdiction for purposes of the provisions hereof relating to such attachment, perfection or priority and for purposes of definitions related to such provisions.

ARTICLE II
PLEDGE

Section 2.1Grant of Security Interest. As security for the full, prompt and complete payment when due (whether at stated maturity, by acceleration or otherwise) of all of the Secured Obligations, Grantor hereby pledges, hypothecates, assigns, charges, mortgages, delivers, and transfers to the Noteholders, and hereby grants to the Noteholders, a continuing security interest in all of Grantor's right, title and interest (whether now or hereafter existing or acquired) in and to the following (collectively, the "***Pledged Collateral***").

(a) the Pledged Shares and the certificates representing such Pledged Shares for the Pledged Company, and all dividends, cash, instruments, and other property or proceeds from time to time received, receivable, or otherwise distributed in respect of or in exchange for any or all of such Pledged Shares, including:

(i) all voting trust certificates held by Grantor evidencing its beneficial interest in any Pledged Shares subject to any voting trust and

---

(ii) all additional shares of equity interests of the Pledged Company and voting trust certificates from time to time acquired by Grantor in any manner (which additional shares shall be deemed to be part of Pledged Shares), and the certificates, if any, representing such additional shares and all dividends, cash, instruments, and other property or proceeds from time to time received, receivable, or otherwise distributed in respect of or in exchange for any or all of such additional shares; and

(b) the rents, issues, profits, returns, income, allocations, distributions and proceeds of and from any and all of the foregoing.

Promptly after the earlier to occur of (i) the final Closing under the Note Purchase Agreement or (ii) August 30, 2024, Grantor shall cause the Pledged Company to register Grantor's pledge of the Pledged Collateral to the Noteholders on the books of the Pledged Company. Grantor further agrees to take all other actions as reasonably requested by the Noteholders or the Escrow Agent to perfect the security interest of the Noteholders in the Pledged Collateral.

Section 2.2Continuing Security Interest. This Agreement shall create a continuing security interest in the Pledged Collateral and shall:

(a) remain in full force and effect until the Discharge of Obligations;

(b) be binding upon Grantor and its successors, transferees and assigns; and

(c) inure, together with the rights and remedies of the Noteholders hereunder.

Upon the Discharge of Obligations, the security interest granted herein shall terminate and all rights to the Pledged Collateral shall revert to Grantor. Upon any such termination, the Escrow Agent and the Noteholders, as the case may be, shall, at Grantor's sole expense, deliver to Grantor, without any representations, warranties or recourse of any kind whatsoever, any and all certificates and instruments representing or evidencing Grantor's interest in any Pledged Company that had been previously delivered by Grantor to the Noteholders, together with all other Pledged Collateral pledged by Grantor held by the Escrow Agent hereunder, free and clear of all liens arising from or through the Noteholders, and execute and deliver to Grantor, at Grantor's sole expense, such documents as Grantor shall reasonably request to evidence such termination.

Section 2.3No Assumption. This Agreement is executed and delivered to the Escrow Agent, for collateral security purposes only. Notwithstanding anything herein to the contrary:

(a) Grantor shall remain liable under the contracts and agreements included in the Pledged Collateral to the extent set forth therein and shall perform all of its duties and obligations under such contracts and agreements to the same extent as if this Agreement had not been executed;

shall perform all of its duties and obligations under such contracts and agreements to the same extent as if this Agreement had not been executed;

(b) the exercise by the Escrow Agent or the Noteholders of any of its rights hereunder shall not release Grantor from any of its duties or obligations under any such contracts or agreements included in the Pledged Collateral; and

(c) Neither the Escrow Agent nor the Noteholders shall have any obligation or liability under any such contracts or agreements included in the Pledged Collateral by reason of this Agreement, nor shall the Escrow Agent or the Noteholders be obligated to perform any of the

obligations or duties of Grantor thereunder or to take any action to collect or enforce any claim for payment assigned hereunder, and the neither the Escrow Agent nor the Noteholders shall, hereunder or otherwise, (i) assume any obligation or liability under or in connection with the Pledged Shares to any Person, and any such assumption is hereby expressly disclaimed, or (ii) be deemed to have or be vested with the duties, responsibilities or powers of the management of any Pledged Company.

ARTICLE III
REPRESENTATIONS AND WARRANTIES

Section 3.1Representations and Warranties. Grantor hereby represents and warrants to the Escrow Agent as follows:

(a) Authority. Grantor has full power and authority to enter into and perform its obligations under this Agreement.

(b) Legal Name. The legal name of Grantor is set forth on the signature page to this Agreement.

(c) Capacity; Due Authorization; Non-Contravention. The execution, delivery and performance by Grantor of this Agreement has been duly authorized by all necessary action by Grantor, and do not contravene the Charter Documents or membership agreement of Grantor and/or the Pledged Companies; and in each case do not:

(i) contravene any contractual restriction, law or governmental regulation or court decree or order binding on or affecting Grantor and/or the Pledged Companies; or

(ii) result in, or require the creation or imposition of, any lien on any of Grantor and/or Pledged Companies properties except as contemplated hereby.

(d) Filing. No presently effective UCC Financing Statement covering any of the Pledged Collateral is on file in any public office, except for the UCC Financing Statement in favor of the Escrow Agent and in connection with liens permitted under the terms of the Note Purchase Agreement ("***Permitted Liens***").

(e) Ownership; No Liens. Grantor is the legal and beneficial owner of, and has good and valid title to (and has full right and authority to pledge and assign), all Pledged Collateral pledged hereunder, free and clear of all liens, except the lien granted herein to the Escrow Agent for the benefit of the Noteholders and Permitted Liens. None of the Pledged Collateral has been transferred in violation of the securities registration, securities disclosure or similar laws of any jurisdiction to which such transfer may be subject.

(f) Equity Interest. The equity class and percentage ownership of the Pledged Sharesto be distributed to the Noteholders in the Event of a Default as defined in the Note, are set forth on "Exhibit B" attached hereto. Grantor agrees to amend Exhibit B from time to time within five (5) business days of receiving any additional securities with respect to the Pledged Shares, or of obtaining knowledge of circumstances causing the percentage ownership to have changed.

(g) Certificate. No interest of Grantor in any Pledged Company is represented by a stock certificate or other similar instrument, except, i any, such certificates or instruments (together with all necessary instruments of transfer or assignment, duly executed in blank) as have been delivered to

the Escrow Agent and are held in its possession (and Grantor covenants and agrees that any such certificates or instruments hereafter received by Grantor with respect to any of the Pledged Collateral (together with all necessary instruments of transfer or assignment, duly executed in blank) will be promptly delivered to the Escrow Agent).

(h) Information. All information with respect to the Pledged Collateral set forth in any schedule, certificate or other writing at any time furnished by Grantor to the Escrow Agent is and shall be true and correct in all material respects as of the Closing date furnished.

(i) Authorization; Approval. No authorization, approval, or other action by, and no notice to or filing with, any governmental authority, o any other Person is required either:

(i) for the pledge by Grantor of any Pledged Collateral pursuant to this Agreement or for the execution, delivery and performance of this Agreement by Grantor; or

(ii) for the exercise by the Escrow Agent of (A) the voting or other rights provided for in this Agreement, or (B) the remedies in respect of the Pledged Collateral pursuant to this Agreement, except, in the case of this clause (ii)(B), as though made may be required in connection with a disposition of such equity interests or membership interests by laws affecting the offering and sale of securities generally, o as may be required under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 and regulations issued relating thereto.

(j) First Priority Lien. The pledge and grant of a security interest in, and delivery pursuant to this Pledge Agreement of, the Pledged Collateral creates a valid first priority perfected security interest on and as in such Pledged Collateral, and the proceeds thereof, securing the payment of the Closing, Secured Obligations, subject to no prior lien, assuming continued possession of the original certificates, if any, evidencing the Pledged Shares constituting such Pledged Collateral by the Escrow Agent. Separately, the security interest on and in the Pledged Collateral will become a valid first priority lien upon the due filing of a UCC Financing Statement describing the Pledged Collateral in the applicable filing office in the State in which Grantor was formed.

(k) Charter Documents. The copies of the Charter Documents of the Grantor are attached hereto as "Exhibit C" are a true, correct, and complete copy thereof, and such Charter Documents have not been further amended or modified in any respect. Additionally, Grantor represents that the provisions of the Charter Documents and stockholder or membership agreements of the Pledged Company do not in any way prohibit, restrict, condition or otherwise affect the grant hereunder of any lien, security interest or encumbrance on any of the Pledged Collateral or any enforcement action which may be taken in respect of any such lien, security interest or encumbrance, or otherwise conflict with the terms of this Agreement.

ARTICLE IV
COVENANTS

Section 4.1Protect Pledged Collateral; Further Assurances. Subject to the terms of (and except (i) as permitted by) the Note Purchase Agreement, Grantor shall not sell, assign, transfer, pledge or otherwise

---

encumber the Pledged Collateral in any manner (except for changes specifically permitted the pledge granted herein to the Noteholders and in connection with Permitted Liens); provided, however, that in accordance with Section 4 of the Note Purchase Agreement, in the event that there is an Initial Public Offering (as defined in the Note Purchase Agreement) or a Merger Event (as defined in the Note Purchase Agreement), prior to the Maturity Date (as defined in the Notes), then upon advance notice to the Escrow Agent, the Escrow Agent shall transfer the Pledged Collateral to Grantor and the Grantor shall have fifteen (15) days to sell the Pledged Collateral in accordance with Section 4 of the Note Purchase Agreement. Grantor shall warrant and defend the right and title granted by this Agreement and (ii) that those representations and warranties which address matters only as of a particular date shall remain true and correct as of such date. Unless the Subscriber receives written notice to the contrary Escrow Agent and the Noteholders in and to the Pledged Collateral (and all right, title and interest represented by such Pledged Collateral) against the claims and demands of all Persons whomsoever, but, except as otherwise expressly provided in the Note Purchase Agreement, nothing contained herein shall prevent any Pledged Company from issuing additional equity interests. Grantor agrees that at any time, and from time to time, Grantor shall promptly execute and deliver all further instruments, and take all further action that may be necessary or desirable, as the Escrow Agent may reasonably request, in order to perfect and protect any security interest granted or purported to be granted hereby or to enable the Escrow Agent to exercise and enforce its rights and remedies hereunder with respect to any of the Pledged Collateral as set forth in Article VI. Grantor further agrees that the Escrow Agent, at the

enforce its rights and remedies hereunder with respect to any of the Pledged Collateral as set forth in Article VI. Grantor further agrees that the Escrow Agent, at the Closing, Subscriber Grantor's sole expense, may file, or cause to be filed, any financing or continuation statements under the UCC with respect to the security interests granted hereby, and that such financing or continuation statements need not contain Grantor's signature thereon.

Section 4.2 Voting Rights. Unless an Event of Default (as defined in the Note) has occurred and is continuing:

(a) Grantor shall be entitled to assume that the preceding is accurate in exercise any and all respects at the Closing.

(2) The Company shall have performed or complied in all material respects with all agreements voting and covenants required by this Agreement to be performed or complied with on or prior other consensual rights pertaining to the Closing. Unless Pledged Collateral or any part thereof for any purpose not inconsistent with or in contravention of the Subs receives written notice provisions of the Note Purchase Agreement;

(b) subject to and limited by the contrary at provisions of the Closing, Subscriber Note Purchase Agreement, Grantor shall be entitled to assume that the preceding is accurate in all respects at the Closing.

(3) No governmental authority or other agency or commission or federal or state court of competent jurisdiction shall have enacted, issued, promulgated, enforced or entered any statute, rule, regulations executive order, decree, injunction, or other order (whether temporary, preliminary or permanent) which is in effect receive and which materially restric prevents or prohibits consummation of the Closing or any transaction contemplated by this Agreement.

b. The obligations of the Company to proceed with the Closing is subject to the following conditions retain any and all cash dividends and interest; provided that any and all divide or other payments paid or payable other than in cash in respect of, and instruments and other property received, receivable or otherwise distributed in respect of, or in exchang any Pledged Collateral, shall, in each of the foregoing cases, forthwith be delivered to the Escrow Agent to hold as Pledged Collateral and shall, if received by Grantor, be rece in trust for the benefit of the Noteholders, be segregated from the other property or funds of Grantor, and be forthwith delivered to the Escrow Agent as Pledged Collateral in th same form as so received; and

(c) All payments and proceeds which may at any time and from time to time be waived, held by Grantor, but which Grantor is obligated to deliver to the Escrow Agent shall be held by Grantor separate and apart from its other property in trust for the Escrow Agent. Grantor shall have the exclusive voting power with respect to the Pledged Collateral and the Escrow Agent shall, at Grantor's sole expense, upon the written request of Grantor, promptly deliver such proxies and other documents, if any, as shall be reasonably requested by Grantor which are necessary to allow Grantor to exercise voting power with respect to the Pledged Collateral; provided that no vote shall be cast, or consent, waiver or ratification given or action taken by Grantor that would impair any Pledged Collateral or be inconsistent with or violate any provision of the Note Purchase Agreement without the prior written consent of the Escrow Agent.

Section 4.3 Filings; Recordings. Grantor shall execute such documents, and do such other acts and things, all as the Escrow Agent or the Noteholders may from time to time reasonably request to establish

---

and maintain a valid, perfected pledge of, and security interest in, the Pledged Collateral in favor of the Noteholders.

Section 4.4 Information. Grantor shall furnish the Escrow Agent such information concerning the Pledged Collateral as the Escrow Agent may from time-to-time reasonably request.

Section 4.5 Notice of Dissolution. Grantor shall notify the Escrow Agent, within thirty (30) calendar days of any termination and/or dissolution of any Pledged Company.

Section 4.6 Books and Records. Grantor shall cause each Pledged Company to mark its books and records pertaining to the Pledged Collateral to evidence this Agreement and the liens and security interests granted to the Noteholders hereby.

ARTICLE V
ATTORNEY IN FACT, ETC.

Section 5.1 Escrow Agent Appointed Attorney-in-Fact. Grantor hereby irrevocably appoints the Escrow Agent, its successors or assigns, to be Grantor's attorney-in-fact, with full authority in the place and stead of Grantor and in the name of Grantor or otherwise, from time to time in the Escrow Agent's discretion, but only after the occurrence and during the continuance of an Event of Default (as defined in the Note Purchase Agreement), to take any action and to execute any instrument which the Escrow Agent may reasonably deem necessary or advisable to accomplish the purposes of this Agreement, including:

(a) to ask demand, collect, sue for, recover, compromise, receive and give acquittance and receipts for moneys due and to become due under or in respect of any of the Pledged Collateral;

under or in respect of any of the Pledged Collateral;

(b) to receive, endorse, and collect any drafts or other instruments, documents and chattel paper, in connection with clause (a) above; and

(c) to file any claims or take any action or institute any proceedings which the Escrow Agent may reasonably deem necessary or desirable for the collection of any of the Pledged Collateral or otherwise to enforce the rights of the Escrow Agent with respect to any of the Pledged Collateral.

Grantor hereby acknowledges, consents, and agrees that the power of attorney granted pursuant to this Section 5.1, being coupled with an interest, is irrevocable. Grantor hereby expressly agrees to compensate the Escrow Agent for the Escrow Agent's time according to the Escrow Agent's billable hour rate determined upon an Event of Default, and to reimburse the Escrow Agent for any and all expenses, including but not limited to attorney fees, in accordance with the Escrow Agent having to perform the Escrow Agent's duties as Grantor's attorney-in-fact under Section 5.

Section 5.2Protection of Pledged Collateral. The Escrow Agent may from time to time, at its option, perform any act which Grantor agrees hereunder to perform and which Grantor shall fail to perform after being requested in writing so to perform and the Escrow Agent may from time to time take any other action which the Escrow Agent reasonably deems necessary for the maintenance, preservation or protection of any of the Pledged Collateral or of its security interest therein, all such actions being for the express benefit of the Noteholders and not Grantor. The expenses of the Escrow Agent incurred in exercising its rights under this Section 5.2 shall be payable by Grantor pursuant to the Note Purchase Agreement.

Section 5.3Escrow Agent Has No Duty to Grantor. The powers conferred on the Escrow Agent hereunder are solely to protect the Noteholders' interest in the Pledged Collateral and shall not impose any duty on the Escrow Agent to exercise any such powers. The Escrow Agent shall have no duty as to any Pledged Collateral or responsibility for (a) ascertaining or taking action with respect to calls, conversions, exchanges, maturities, tenders or other matters relative to any Pledged Collateral, whether or not the Escrow Agent has or is deemed to have knowledge of such matters, or (b) taking any necessary steps to preserve rights against prior parties or any other rights pertaining to any Pledged Collateral, provided that the Escrow Agent deals with such Pledged Collateral in the same manner as the Escrow Agent deals with similar property for its own account. Without limiting the generality of the preceding sentence, the Escrow Agent shall be deemed to have exercised reasonable care in the custody and preservation of any of the Pledged Collateral if it takes such action for that purpose as Grantor reasonably requests in writing. Failure of the Escrow Agent to comply with any such request at any time shall not in itself be deemed a failure to exercise reasonable care.

ARTICLE VI
GENERAL PROVISIONS

Section 6.1Event of Default. In the Event of Default (as defined in the Note), all rights of Grantor to vote and receive dividends with respect to the Pledged Collateral shall cease and shall become vested in the Noteholders, and the Noteholders may elect then, or at any time thereafter, to exercise all rights available to a secured party under applicable law including the right to sell the Pledged Collateral at a private or public sale or repurchase the Pledged Shares. The proceeds of any sale shall be applied in the following order:

(a) To the extent necessary, proceeds shall be used to pay all reasonable expenses of the Noteholders in enforcing this Agreement and the Note, including, without limitation, reasonable attorney's fees and legal expenses incurred by the Noteholders.

(b) To the extent necessary, proceeds shall be used to satisfy any remaining indebtedness under the Note.

(c) Any remaining proceeds shall be delivered to the Noteholders *pro rata*.

Section 6.2Continuing Agreement.

(a) This Agreement shall be a continuing agreement in every respect and shall remain in full force until the Discharge of Obligations. Upon the Discharge of Obligations, this Agreement and the liens and security interests of the Escrow Agent hereunder shall be automatically terminated and the Escrow Agent shall, upon the request and at the expense of Grantor, forthwith release all of the Noteholders liens and security interests hereunder and shall execute and deliver all UCC termination statements and/or other documents reasonably requested by Grantor evidencing such termination. Notwithstanding the foregoing, all releases and indemnities provided hereunder shall survive termination of this Agreement.

(b) This Agreement shall continue to be effective or be automatically reinstated, as the case may be, if at any time payment, in whole or in part, of any of the Secured Obligations is rescinded or must otherwise be restored or returned by the Escrow Agent as a preference, fraudulent

conveyance or otherwise under any bankruptcy, insolvency or similar law, all as though such payment had not been made; provided that in the event payment of all or any part of the Secured

Obligations is rescinded or must be restored or returned, all reasonable costs and expenses (including, without limitation, reasonable attorneys' fees and disbursements) incurred by the Escrow Agent in defending and enforcing such reinstatement shall be deemed to be included as a part of the Secured Obligations. Any reinstatement in accordance with this Section 6.1(b) shall not include any Pledged Collateral that Grantor disposed of in a bona fide transaction prior to such reinstatement.

Section 6.3Amendments; Waivers. This Agreement and the provisions hereof may be amended or waived, only with the written consent of Grantor and Noteholders holding at least a majority of the aggregate unpaid principal amount of the Notes, it being understood that the Escrow Agent's consent is not required for any such amendment or waiver except to the extent that it would materially change the Escrow Agents rights and obligations.

Section 6.4Notices. All notices required or permitted by applicable law: to be given under this Agreement shall be given at the address specified below, or at such other address as may be designated in a written notice to the other parties hereto:

if to Grantor: HCW Biologics Inc.
2929 N Commerce Parkway
Miramar, FL 33025
Attention: Nicole Valdivieso
Email: NicoleValdivieso@hcwbiologics.com

if to the Escrow Agent: Mercedes M. Sellek, P.A.
2520 SW 99 Court
Miami, FL 33165
786-591-7310
Attention: Mercedes M. Sellek, Esq.
Email: msellek@selleklaw.com

if to the Noteholders: See Address Provided on Signature Page(s)

Section 6.5Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be an original, but all of which shall constitute one and the same instrument. It shall not be necessary in making proof of this Agreement to produce or account for more than one such counterpart. Delivery of executed counterparts of this Agreement by facsimile or other electronic means shall be effective as an original.

Section 6.6Severability; Headings. Wherever possible each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be prohibited by or invalid under such law, such provision shall be ineffective to the extent of such prohibition or invalidity without invalidating the remainder of such provision or the remaining provisions of this Agreement.

(1) Section 6.7

(2) AssignmentThe Subscriber shall have performed or complied in all material respects with all agreements and covenants required by this Agreement to be performed or complied

prior to the Closing. Unless the Company receives written notification to the contrary at the Closing, the Company shall be entitled to assume that the preceding is a respects at the Closing.

(3) No governmental authority or other agency or commission or federal or state court of competent jurisdiction shall have enacted, issued, promulgated, enforced or entered any statute, rule, regulation, executive order, decree, injunction, or other order (whether temporary, preliminary or permanent) which is in effect and which materially restricts, prevents prohibits consummation of the Closing or any transaction contemplated by this Agreement.

D. MISCELLANEOUS

a. Any notice or other communication given hereunder shall be deemed sufficient if in writing and sent by registered or certified mail, return receipt requested, or delivered by han against written receipt therefore, addressed to the Company, 2929 North Commerce Parkway, Miramar, Florida 33025, Attention: Nicole Valdivieso, Esq. and to the Subscriber address indicated on the signature page of this Agreement. Notices shall be deemed to have been given on the date of mailing, except notices of change of address, which sh deemed to have been given when received.

b. This Agreement shall not be changed, modified or amended except by a writing signed by the parties to be charged. and this Agreement may not be discharged except by performance in accordance with its terms or by a writing signed by the party to be charged.

c. . This Agreement shall be binding upon and inure to the benefit of the parties hereto and to their respective heirs, legal representatives, successors, assigns and assigns. transferees, provided that Grantor may not assign its rights or obligations hereunder to any Person.

Section 6.8 Governing Law; Jurisdiction; Etc.

(a) This Agreement sets forth shall be governed by, and construed and enforced in accordance with, the entire agreement and understanding between laws of the parties as to State of New York, excluding conflict of laws principles that would cause the subject matter thereof and merges and supersedes all prior discussions, agreements and understandings application of laws of any and every nature among them. other jurisdiction.

d. (b) All judicial proceedings arising in or under or related to this Agreement may be brought in any state or federal court located in the State of New York. By execution and delivery of this Agreement, each party hereto generally and unconditionally: (i) consents to nonexclusive persona jurisdiction in the City and county of New York, New York; (ii) waives any objection as to jurisdiction or venue in in the City and county of New York, New York; (iii) agrees not to assert any defense based on lack of jurisdiction or venue in the aforesaid courts; and (iv) irrevocably agrees to be bound by the Subscriber, any judgment rendered thereby in connection with this Agreement. Service of process on any party hereto in any action arising out of or relating to this Agreement shall become be effective if given in accordance with the requirements for notice set forth in Section 6.3, and shall be deemed effective and received as set forth in Section 6.3. Nothing herein shall affect the right to serve process in any other manner permitted by law or shall limit the right of either party to bring proceedings in the courts of any other jurisdiction.

Section 6.9 Mutual Waiver of Jury Trial. Grantor and Escrow Agent each waive their right to a binding obligation jury trial of any claim or cause of action arising out of this Agreement or any related document or any transaction contemplated hereby or thereby, including contract, tort, breach of duty and all other claims. This waiver is a material inducement for both parties to enter into this Agreement. Each party has reviewed this waiver with its counsel.

Section 6.10 Entire Agreement. This Agreement, the Note Purchase Agreement and the other documents relating to the Secured Obligations represent the entire agreement of the Subscriber parties hereto and thereto, and supersede all prior agreements and understandings, oral or written, if any, including, but not limited to, any commitment letters or correspondence relating to the Note Purchase Agreement, any other documents relating to the Secured Obligations, or the transactions contemplated herein and therein.

In Witness Whereof, the parties hereto have caused this Agreement to be duly executed and delivered by their respective duly authorized persons as of the date first written above.

GRANTOR:

HCW BIOLOGICS INC.

By:
Name: Hing C. Wong
Title: Chief Executive Officer
Accepted and agreed:

ESCROW AGENT:

MERCEDES M. SELLEK, P.A., A FLORIDA CORPORATION

BY:
NAME:MERCEDES M. SELLEK, ESQ., PRESIDENT
TITLE:ESQUIRE AND PRESIDENT

NOTEHOLDER:

O'NEILL AAF LLC, AS AGENT FOR ITSELF AND THE OTHER NOTEHOLDERS

BY:
NAME: GEORGE D. O'NEILL JR.
TITLE: MANAGER

EXHIBIT A

ESCROW AGREEMENT

EXHIBIT B

EQUITY CLASS AND PERCENTAGE OWNERSHIP OF THE PLEDGED SHARES TO BE DISTRIBUTED TO THE NOTEHOLDERS IN THE EVENT OF A DEFAULT

Name	Principal Amount	Pro Rata Interest	Wugen Shares
Dr. Hing C. Wong	$ 620,000	6.20%	168,287
Dr. Hing C. Wong	1,600,000	16.00%	434,290
Chris Cheung and Ling Cheung	200,000	2.00%	54,286
Michael Poon and Manwah Wong	100,000	1.00%	27,143
Ho Cheung Wong	60,000	0.60%	16,286
Hoi Sang Yeung (Kelly)	250,000	2.50%	67,858
R. Kemp Riechmann Trustee Revocable Trust of Roland Kemp Riechmann	250,000	2.50%	67,858
Benjamin J. Patz	250,000	2.50%	67,858
Rebecca Byam	220,000	2.20%	59,715
Scott T. Garret	90,000	0.90%	24,429
Gary M. Winer	50,000	0.50%	13,572
Gary M. Winer	10,000	0.10%	2,714
O'Neill AAF LLC	1,500,000	15.00%	407,147
Retained by Company	4,800,000	48.00%	1,302,868
TOTAL	**$10,000,000**	**100.00%**	**2,174,311**

3

EXHIBIT C

CHARTER DOCUMENTS

4

Exhibit 10.4

AMENDED AND RESTATED ESCROW AGREEMENT

THIS AMENDED AND RESTATED ESCROW AGREEMENT dated as of July 2, 2024 (as the same may be amended, supplemented and/or otherwise modified from time to time**,** the "**Escrow Agreement**"),is made and entered into by and among the Noteholders listed on "**Exhibit A**" attached to this Escrow Agreement as secured parties as such Exhibit may be amended from time to time (collectively the "**Noteholders**"), **HCW BIOLOGICS INC., a Delaware Corporation** (the "**HCW**"), (Noteholders and HCW are sometimes collectively referred to herein as the "**Parties**"), and **Mercedes M. Sellek, P.A., a Florida corporation**,as escrow agent (the "**Escrow Agent**").

RECITALS

A. The Parties and the Escrow Agent entered into that certain Escrow Agreement dated as of March 28, 2024 (the "**Original Agreement**"), and they desire to amend and restate the Original Agreement to be and read as set forth below.

B. HCW is the record and beneficial owner of equity interests in Wugen Inc., a Delaware corporation (the "**Pledged Company**"), and owns, as of the

date hereof, 2,174,311 shares of the issued and outstanding common stock of the Pledged Company. Such equity interest in the Pledged Company owned by HCW, a "**Pledged Share**" and all such shares collectively, the "**Pledged Shares**."

C. HCW and each of the Noteholders as of the date hereof have entered into a senior secured promissory note (each a "**Promissory Note**") substantially in the form attached hereto as "**Exhibit B**" and made a part hereof by reference.

D. Contemporaneous with this Escrow Agreement, HCW and Noteholders have entered into that certain Amended and Restated Senior Secured Note Purchase Agreement, dated as of the date hereof (the "**Note Purchase Agreement**") attached hereto as "**Exhibit C**" and made a part hereof by reference, pursuant to which the Noteholders have extended or will extend loans to HCW on the terms and subject to the conditions set forth therein.

E. Contemporaneous with this Escrow Agreement, and as security for the Promissory Notes, HCW and Noteholders have entered into an Amended and Restated Pledge Agreement (the "**Pledge Agreement**") attached hereto as "**Exhibit D**" and made a part hereof by reference.

F. As security of HCW's obligations under the Promissory Notes, Note Purchase Agreement, and the Pledge Agreement (collectively the "**Loan Documents**"), the Noteholders have requested that HCW enter into this Escrow Agreement and pledge the percentage of its interests in the Pledged Shares to the Noteholders, and for the Escrow Agent to serve as escrow agent under the terms set forth in this Escrow Agreement.

G. Noteholders and HCW desire to have Escrow Agent hold and release the Pledged Shares pursuant to the terms hereof.

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1.INCORPORATION OF RECITALS. The Recitals set forth above are incorporated by reference into this Escrow Agreement.

2. DEPOSIT IN ESCROW OF PLEDGED SHARES. Simultaneously with the execution and delivery of the Original Agreement, HCW approved of the delivery to the Escrow Agent of the Pledged Shares. The Escrow Agent hereby acknowledges receipt of the Pledged Shares and shall hold the Pledged Shares under the terms of this Escrow Agreement.

3. DUTIES OF ESCROW AGENT. Nothing contained herein shall be deemed to obligate Escrow Agent to release the Pledged Shares. Escrow Agent may consult with counsel of its own choice and shall have full and complete authorization and protection for any action taken or suffered by it hereunder in good faith and in accordance with the opinion of such counsel. The Parties hereby agree, jointly and severally, to indemnify Escrow Agent and hold it harmless from any and all claims, liabilities, losses, actions, suits or proceedings at law or in equity, or any other expense or fee with which it may be threatened by reason of its acting as Escrow Agent under this Escrow Agreement, except in the case of its own willful misconduct or gross negligence; and in connection therewith, to indemnify Escrow Agent against any and all expenses, including attorney's fees and costs of defending any action, suit or proceeding or resisting any claim. Escrow Agent shall be vested with a lien on all property deposited hereunder for indemnification, attorney's fees and court costs regarding any suit, inter-pleader or otherwise, or any other expense, fee or charge of any character or nature, which may be incurred by Escrow Agent by reason of disputes arising between Noteholders and HCW as to the correct interpretation of this Escrow Agreement and notices given to Escrow Agent. Regardless of the notices aforesaid, Escrow Agent may hold the said property until and unless said additional expenses, fees and charges shall be fully paid. All of the terms and conditions in connection with Escrow Agent's duties and responsibilities and the rights of Noteholders, HCW or anyone else, are contained in this instrument, and the Escrow Agent is not required to be familiar with the provision of any other instrument or agreement and shall not be charged with any responsibility or liability in connection with the observance or non-observance by anyone of the provisions of any other such instrument or agreement. Escrow Agent may rely and shall be protected in acting upon any paper or other document which may be submitted to it in connection with its duties hereunder and which is believed by it to be genuine and to have been signed or presented by the proper party or parties and shall have no liability or responsibility with respect to the purchase form, execution or validity thereof. Escrow Agent shall be entitled to assume (i) the genuineness of Shares all signatures on all documentation received by it; and (ii) the genuineness of all copies submitted to it as photostatic or exact

copies. Escrow Agent shall not be required to institute or defend any action or legal process involving any matter referred to herein provided.