BICARA THERAPEUTICS™

Q1 2026 Earnings Call

May 11, 2026

Forward-looking statements

This presentation contains forward-looking statements that involve substantial risks and uncertainties. All statements other than historical factual information are forward-looking statements, including without limitation express or implied statements regarding our strategy, business plans and focus; the clinical development of ficerafusp alfa, including the initiation, timing, progress, results and future data releases of our ongoing and planned clinical trials; the advancement of the FORTIFI-HN01 pivotal trial in 1L HPV-negative R/M HNSCC and our expectations for the trial to be substantially enrolled by the end of the year and an interim analysis mid-2027; the timing of future data releases from our ongoing Phase 1/1b expansion cohorts; the initiation of an alternate dose study in the third quarter of 2026 to evaluate a loading and every-three-week maintenance dosing regimen of ficerafusp alfa and expectations for results in time for potential U.S. accelerated approval; the expected therapeutic potential and clinical benefits of ficerafusp alfa, including potential efficacy, depth, durability and tolerability as compared to the existing standard of care; our ability to scale and prepare for potential commercialization of ficerafusp alfa; anticipated contributions of members of our leadership team; the potential for U.S. regulatory approval and U.S. launch of ficerafusp alfa; the potential market opportunities for ficerafusp alfa in HPV-negative HNSCC and potential expansion opportunities across other solid tumors; and our expected operating expenses and capital expenditure requirements. In some cases, you can identify forward-looking statements because they contain words such as “may,” “might,” “will,” “would,” “shall,” “should,” “expects,” “plans,” “anticipates,” “could,” “intends,” “target,” “projects,” “contemplates,” “believes,” “estimates,” “looks,” “seeks,” “predicts,” “potential,” “ongoing,” or “continue” or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans or intentions, although not all forward-looking statements are accompanied by such words. Forward-looking statements are based on assumptions and assessments made by our management in light of their experience and perceptions of historical trends, current conditions, expected future developments and other factors they believe to be appropriate, and speak only as of the date of this presentation.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or other events to be materially different from any future results, performance or other events expressed or implied by the forward-looking statements. Given these uncertainties, you should not place undue reliance on forward-looking statements. Our actual future results, performance or other events may be materially different from what we expect. Except as required by law, we assume no obligation to update these forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Factors that could cause actual results to differ from those predicted in our forward-looking statements include, among others, risks and uncertainties related to product development, including delays or challenges that may arise in the development and regulatory approval of our current and future product candidates or programs; uncertainties as to the availability and timing of results and data from preclinical and clinical studies; the timing of and our ability to submit and obtain regulatory clearance for investigational new drug applications, initiate additional clinical trials, and submit new drug applications or biologics license applications; our ability to initiate and complete our current and expected clinical trials; our ability to establish and maintain collaborations, strategic relationships and supply arrangements, or that we will not realize the intended benefits from such relationships or arrangements; whether our cash resources will be sufficient to fund our foreseeable and unforeseeable operating expenses and capital expenditure requirements; our ability to raise additional funding on favorable terms, or at all; the rate and degree of market acceptance and clinical utility of our product candidates; the ability and willingness of our third-party collaborators to continue research and, development and manufacturing activities relating to our product candidates; the accuracy of our data analyses or estimates for the potential and market for our products; our ability, and the ability of our collaborators, to protect our intellectual property and to conduct activities for the development and commercialization of our candidates in view of third party intellectual property positions; our financial performance; our ability to retain and recruit key personnel; developments and projections relating to our competitors or our industry; changes in general economic conditions and global instability, in particular economic conditions in the markets on which we or our suppliers operate; changes in laws and regulations; and those risks and uncertainties identified in our filings with the Securities and Exchange Commission (SEC), including under the heading “Risk Factors” in our most recent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q, and such other risks and uncertainties that may be described in subsequent filings we may make with the SEC.

You should not rely upon forward-looking statements as predictions of future events or performance, or as a representation or warranty (express or implied) by us or any other person that we will achieve our objectives and plans in any specified time frame, on such specified terms, or at all. Although our management believes that the expectations reflected in our statements are reasonable, we cannot guarantee that the future results, performance or events and circumstances described in the forward-looking statements will be achieved or occur. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein.

Market data and industry information used throughout this presentation are based on management’s knowledge of the industry and the good faith estimates of management. We also relied, to the extent available, upon management’s review of independent industry surveys and publications and other publicly available information prepared by a number of third-party sources. All of the market data and industry information used in this presentation involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Although we believe that these sources are reliable as of their respective dates, we cannot guarantee the accuracy or completeness of this information, and we have not independently verified this information. Projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate are necessarily subject to a high degree of uncertainty and risk due to a variety of factors. These and other factors could cause results to differ materially from those expressed in our estimates and beliefs and in the estimates prepared by independent parties.

This presentation discusses potential future product candidates that are investigational only and have not yet been approved for marketing by the U.S. Food and Drug Administration. No representation is made as to the safety or effectiveness of these potential future product candidates for the use for which such potential future product candidates are being studied.

Agenda & today's presenters

1 **Introduction**

Claire Mazumdar, Ph.D., MBA
Chief Executive Officer

2 **Clinical Progress**

Bill Schelman, MD, Ph.D.
Chief Medical Officer

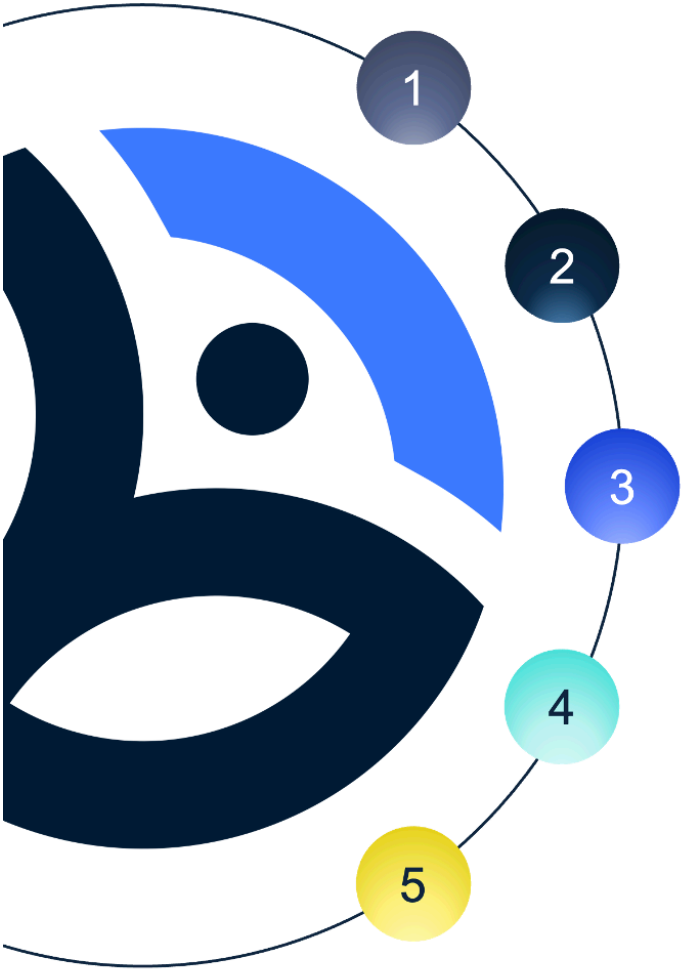
2 **Business Updates**

Ryan Cohlhepp, Pharm.D.
President & Chief Operating Officer

3 **Financial Results**

Ivan Hyep, MBA
Chief Financial Officer

Q1 2026 highlights and recent progress



1. **Continued strong execution in FORTIFI-HN01 pivotal trial of FICERA; expect to be substantially enrolled by the end of the year to enable interim analysis in mid-2027**
2. **Based on recent discussions with the FDA, expect to initiate an alternate dose study in Q3 2026 to evaluate FICERA + pembrolizumab in 1L R/M HPV-negative HNSCC, to have results in time for potential U.S. accelerated approval**
3. **Published Phase 1b data of FICERA in 1L R/M HNSCC in *Journal of Clinical Oncology, highlighting FICERA's potential as a well-tolerated, chemotherapy-free treatment option across the spectrum of disease burden***
4. **Strengthened the leadership team, including the hiring of a Chief Commercial Officer to ensure we are well-positioned to optimize a potential commercial launch of FICERA**
5. **Strong financial position of $539.8M to support potential FICERA U.S. launch into a significant market opportunity and pipeline-in-a-product potential**

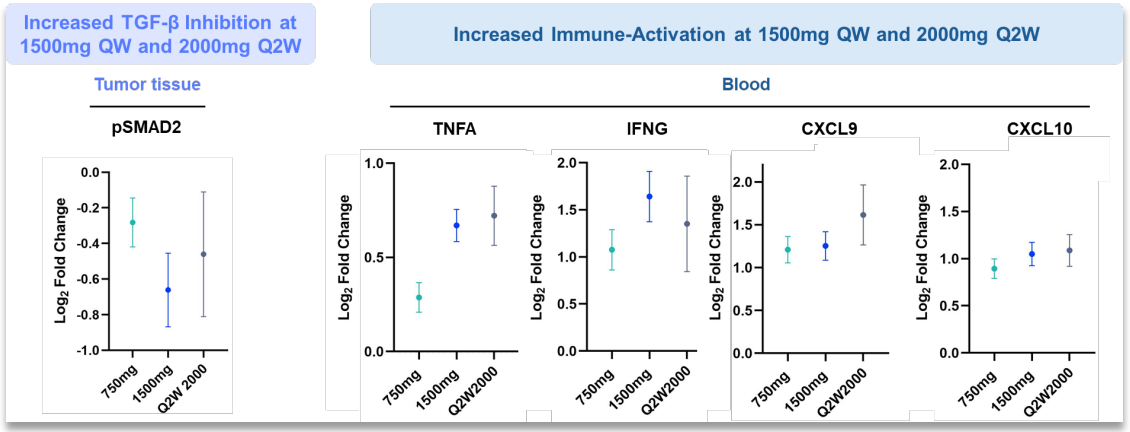
FICERA Phase 1b clinical experience in 1L R/M HPV-negative HNSCC

- Consistent safety, efficacy, **depth of response, and rapid time to response** supports further exploration for less frequent dosing schedule
- Data further **increase confidence in the pivotal study**

	Phase 1b data from exploratory higher dose, less frequent regimen	Phase 1b data from dose selected for pivotal study		
Metric	**2000mg Q2W‡** **EE set (N=27)**	**1500mg QW†** **EE set (N=28)**	**750mg QW*** **EE set (N=30)**	**Pembrolizumab#** **Current standard of care**
Confirmed ORR % (N)	**48% (13/27)**	**54% (15/28)**	**57% (17/30)**	**~19%**
CPS 1-19	57% (8/14)	54% (7/13)	73% (8/11)	15%
CPS ≥ 20	39% (5/13)	53% (8/15)	47% (9/19)	23%
CR Rate % (N)	**26% (7/27)**	**21% (6/28)**	**10% (3/30)**	**~5%**
Deep Responses^ % (N)	**77% (10/13)**	**80% (12/15)**	**29% (5/17)**	**N/A**
Median PFS	**NE**	**9.9 months**	**NE**	**~3.2 months**
Median DoR	**NE**	**21.7 months**	**NE**	**~23.4 months**
Median OS	**NE**	**21.3 months**	**NE**	**~9 months (HPV-negative)**
Median Time to Response	**1.6 months**	**1.4 months**	**1.6 months**	**2.1 months**

#Includes both HPV-positive and HPV-negative R/M HNSCC patients (CPS ≥ 1). Based on historical published data. No head-to-head studies have been conducted, and cross-trial comparisons may not be reliable due to differences in molecule composition, trial design, and patient population and characteristics. Data compiled from: Burtness, Barbara, et al. The Lancet 394.10212 (2019): 1915-1928; Vasiliadou, Ifigenia, et al. International Journal of Cancer 155.5 (2024): 883-893; Black, Christopher M., et al. Frontiers in Oncology 13 (2023): 1160144; European Medicines Agency (CHMP); Keytruda Assessment Report, Procedure No. EMEA/H/C/003820/II/0065 (2019) . ‡Data snapshot: December 16, 2025. *Data snapshot: July 9, 2025, Kaczmar, JM, et al. Ann Oncol. 2025;36(Suppl 4):667O. †Data snapshot: March 20, 2025. Chung CH, et al. J Clin Oncol. 2025;43(16 suppl):6017. HPV-negative efficacy-evaluable population. Investigator-assessed best overall response per RECIST 1.1. ^Deep response refers to ≥ 80% tumor shrinkage from baseline. EE = efficacy evaluable; ORR = objective response rate; CR = complete response. NE = not estimable.

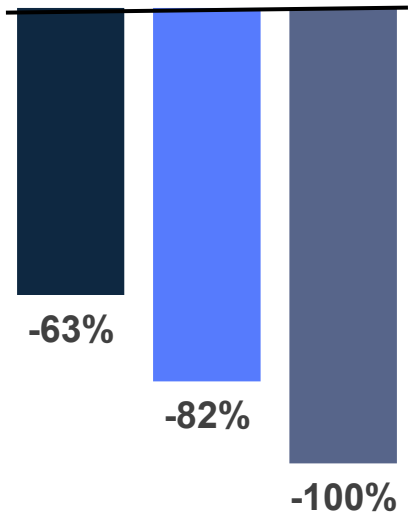
FICERA's TGF-β inhibition and tumor penetration are associated with deeper responses

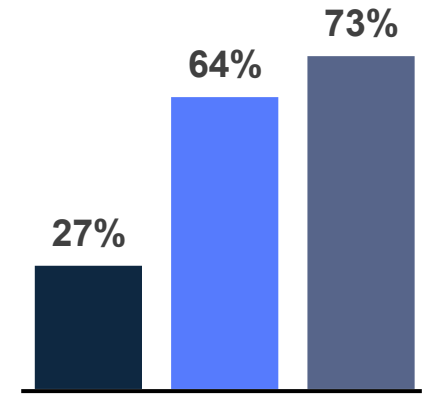


Observed trends of higher TGF-β inhibition within the TME at higher doses, including **pivotal study dose 1500 mg QW** and **at a higher but less frequent dose of FICERA**

Increases in TGF-β inhibition directly in the TME enable greater tumor penetration to **drive deeper and more durable responses**

Depth of Response At 24-Weeks



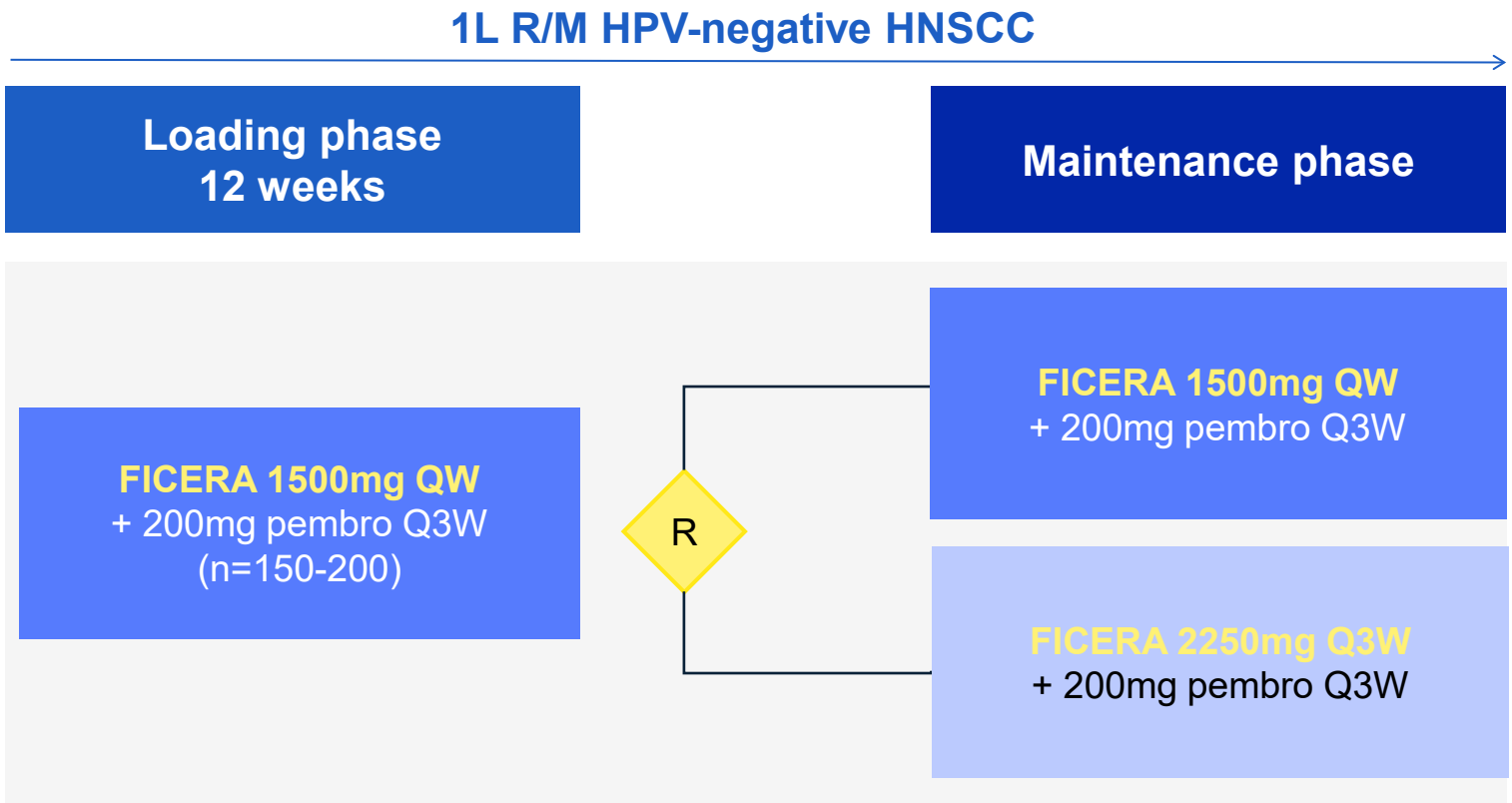


% Of Responders Achieving Deep (≥80%) Response

- 750 mg QW (n=15)
- 1500 mg QW (n=11)
- 2000 mg Q2W (n=11)

Bicara Therapeutics data on file. Plots show mean with SEM. pSMAD2 Analysis: N=5 samples at 750mg, N=7 samples at 1500mg N=4 samples at 2000mg. Immune-activation cytokine analysis: N=24 samples for 750mg (except N=25 for CXCL10), N=27 for 1500mg, and N=11 for 2000mg (except N=12 for CXCL10). Median depth of response represents the median of the best percent change from baseline amongst the confirmed responders at 24-weeks follow-up.

FICERA's alternate dosing regimen study to expand optionality and convenience for patients and providers



Primary endpoint:

Progression free survival

Plan to initiate study in Q3 2026 to have results in time for potential U.S. accelerated approval

QW, every week; Q3W, every three weeks; R, randomize

FICERA has the potential to achieve blockbuster status in HNSCC

$5B+

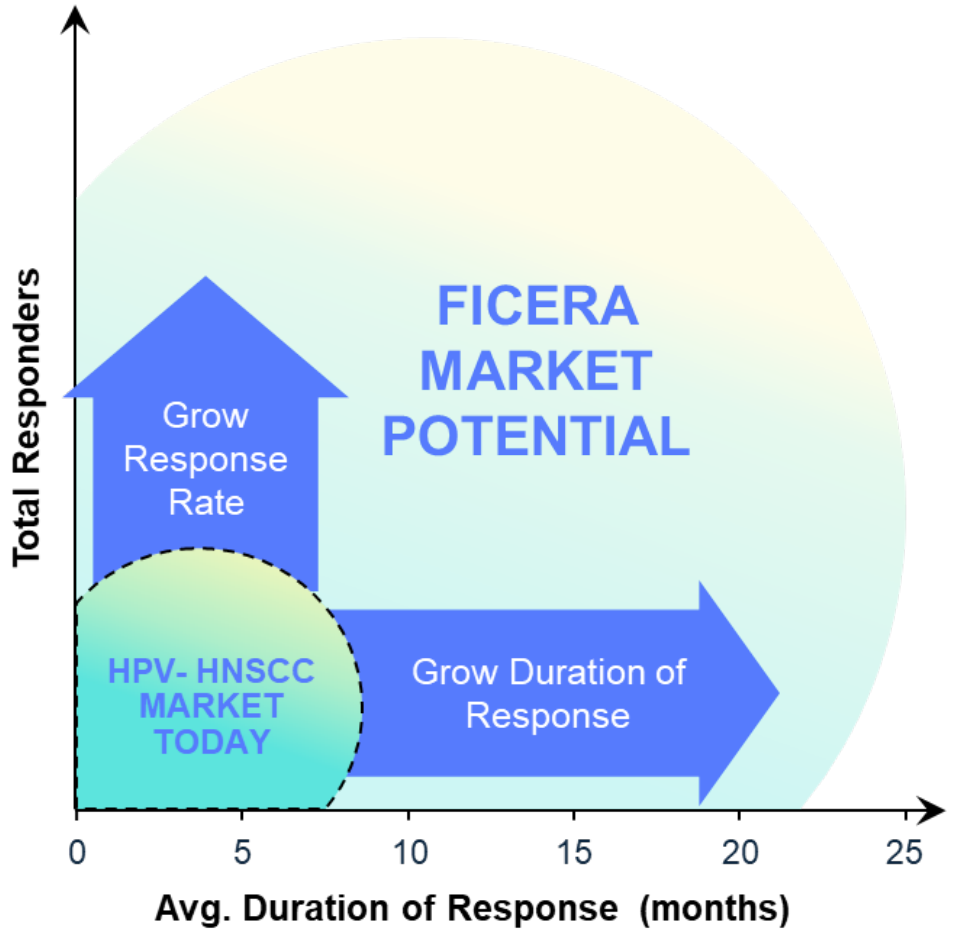
projected global market for HNSCC by 2030[1]

- **FICERA**, an EGFR-directed antibody x TGF-B ligand trap designed to drive tumor penetration
- Evidence-based development and commercialization strategy focused on **greatest unmet need, HPV-negative disease**
- **Proven clinical dataset** that more than doubles median overall survival in HPV-negative patients compared to standard of care
- **Large and growing market,** with ~50K HPV-negative HNSCC patients annually incident in the US, EU5, and Japan[2]

Based on historical published data. No head-to-head studies have been conducted, and cross-trial comparisons may not be reliable due to differences in molecule composition, trial design, and patient population and characteristics.
1. Tessellon patient flow modeling; SEER; country specific registries; literature review; 2. Evaluate Pharma 2025

FICERA has the potential to significantly expand the HPV-negative HNSCC market

Significant Untapped Potential for Market Expansion



Pioneer Treatment Paradigm Shift

Continue to build market understanding of HPV-negative HNSCC as a distinct clinical disease

Drive Better Patient Outcomes

2-3X responses
2-3X duration of response
2X survival

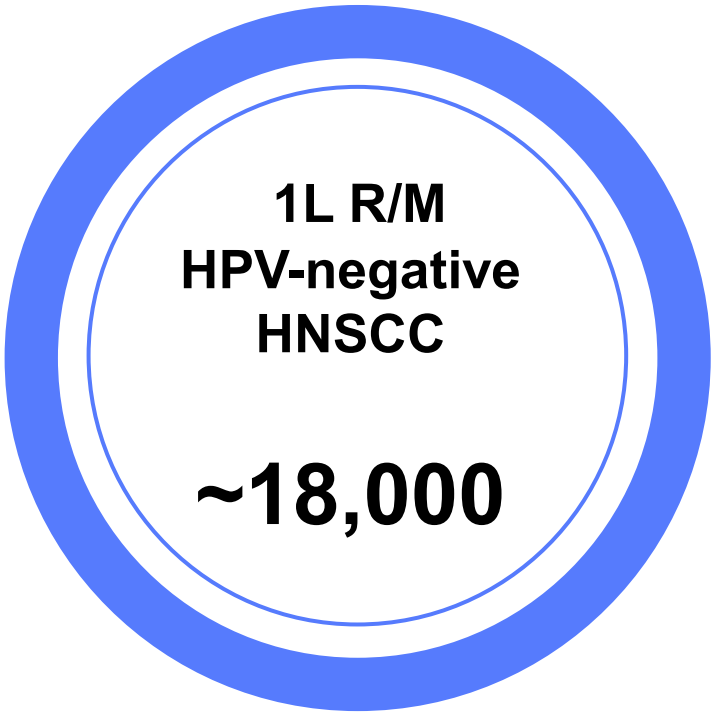
Expand The Market

>2X potential growth in patient months
Additional opportunities to further grow the market (e.g., CPS < 1, HPV-positive smokers)

Based on historical published data. No head-to-head studies have been conducted, and cross-trial comparisons may not be reliable due to differences in molecule composition, trial design, and patient population and characteristics.

Broader opportunity for FICERA in head and neck cancer

Registration-enabling Phase 3 ongoing



Multiple expansion opportunities representing ~50,000 patients in HNSCC (U.S. incidence)

~26,000

Locally Advanced
HPV-negative HNSCC

Earlier-line setting

~4,000

CPS < 1
1L R/M HPV-negative HNSCC

R/M subsegment

~2,000

HPV-positive Smokers
1L R/M HNSCC

R/M subsegment

~1,000

Rapidly Recurrent*
1L R/M HPV-negative HNSCC

R/M subsegment

Source: Bicara market research, represents annual incidence in U.S. SEER data; Tessellon patient flow modeling
*Patients who progressed within 6 months after multimodal treatment for locally advanced disease

Strong financial position to support strategic investment (in thousands)

Statement of Operations (Unaudited)	Three Months Ended 3/31/26	Three Months Ended 3/31/25
Total operating expenses		
Research & development[1]	$ 47,500	$ 34,333
General & administrative[2]	$ 12,742	$ 7,455
Other income	$ 4,083	$ 5,014
Net loss	$ 56,211	$ 36,846
Balance Sheet (unaudited)	**3/31/26**	**12/31/25**
Cash, cash equivalents, and marketable securities	$ 539,753	$ 414,801

1. Includes stock-based compensation expense of $2.2M and $1.1M in the three months ended 3/31/26 and 3/31/25, respectively.
2. Includes stock-based compensation expense of $3.6M and $2.3M in the three months ended 3/31/26 and 3/31/25, respectively.

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Thank You