Filed Pursuant to Rule 424(b)(3)
Registration No. 333-278829

Prospectus Supplement No. 5
(to Prospectus dated April 29, 2024)

Up to 1,682,045 Shares of Common Stock

This prospectus supplement supplements the prospectus, dated April 29, 2024, or the Prospectus, which forms a part of our registration statement on Form S-1 (No. 333-278829). This prospectus supplement is being filed to update and supplement the information in the Prospectus with the information contained in our Current Report on Form 8-K filed with the Securities and Exchange Commission, or the SEC, on December 11, 2024, or the Current Report (except for the portions of the Current Report furnished pursuant to Item 7.01 thereof and the corresponding Exhibit 99.1 thereto furnished, and not filed, with the SEC). Accordingly, we have attached such other portions of the Current Report to this prospectus supplement.

The Prospectus and this prospectus supplement relate to the proposed offer and resale or other disposition from time to time by the selling stockholders identified in the Prospectus of up to an aggregate of 1,682,045 shares of common stock, par value $0.0001 per share, of Q32 Bio Inc.

We are registering the resale of the shares of common stock pursuant to the selling stockholders' registration rights under a registration rights agreement between us and the selling stockholders. Our registration of the resale of the shares of common stock covered by the Prospectus does not mean that the selling stockholders will offer or sell all or any of the shares of common stock. The selling stockholders may offer, sell or distribute all or a portion of their shares of common stock from time to time directly or indirectly through one or more underwriters, broker-dealers or agents, and in one or more public or private transactions. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. See the section entitled "*Plan of Distribution*" in the Prospectus for more information.

We will not receive any proceeds from any sale of common stock by the selling stockholders pursuant to the Prospectus. We have agreed to bear the expenses in connection with the registration of the resale of the shares of common stock to be offered by the Prospectus by the selling stockholders other than any underwriting discounts and commissions or transfer taxes relating to the sale of common stock, which will be borne by the selling stockholders.

Our common stock is listed on the Nasdaq Global Market, or Nasdaq, under the symbol "QTTB." On December 10, 2024, the closing price for our common stock, as reported on Nasdaq, was $24.41 per share.

See the section entitled "Risk Factors" beginning on page 8 of the Prospectus to read about factors you should consider before buying our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is December 11, 2024.

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

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): December 10, 2024

Q32 Bio Inc.
(Exact name of Registrant as Specified in Its Charter)

Delaware	001-38433	47-3468154
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

830 Winter Street Waltham, Massachusetts	02451
(Address of Principal Executive Offices)	(Zip Code)

Registrant's Telephone Number, Including Area Code: 781 999-0232

N/A
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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	QTTB	The Nasdaq Global Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

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. ☐

Item 7.01 Regulation FD Disclosure.

On December 10, 2024, Q32 Bio Inc. (the "Company") issued a press release titled "Q32 Bio Provides Bempikibart Program Update, Including Next Steps for Advancing Alopecia Areata Development Program." A copy of the press release in connection with the announcement is being furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The information in this Current Report on Form 8-K (including Exhibit 99.1 attached hereto) is intended to be furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such filing.

Item 8.01. Other Events.

On December 10, 2024, the Company announced topline results from the SIGNAL-AA Phase 2a signal finding clinical trial evaluating bempikibart (ADX-914) in patients with alopecia areata ("AA") and topline results from the SIGNAL-AD Phase 2a clinical trial evaluating bempikibart in atopic dermatitis ("AD"). The Company also updated its corporate deck, a copy of which is filed as Exhibit 99.2 to this Current Report on Form 8-K and incorporated herein by reference.

Topline Results from SIGNAL-AA Phase 2a Clinical Trial

SIGNAL-AA is a Phase 2a, randomized, double-blind, placebo-controlled, multi-center clinical trial evaluating bempikibart in adult patients with severe and very severe AA (baseline Severity of Alopecia Tool (SALT) scores of 50-100) treated over 24 weeks, with follow-up through 36 weeks. The study is being conducted to evaluate the efficacy and safety of bempikibart 200 mg administered subcutaneously (SC), every-other-week (Q2W) compared to placebo. A total of 44 patients were enrolled in the trial with a primary endpoint of the mean relative percent change in SALT score at 24 weeks compared with baseline.

Following database lock, one site was excluded from the efficacy analysis based on marked protocol violations of entry criteria. This resulted in the removal of three placebo patients, rendering the planned statistical analyses for the primary endpoint inappropriate due to the reduced sample size. On a post-hoc analysis of the remaining per-protocol population of patients with AA (n=27), bempikibart demonstrated an improvement in hair re-growth compared to placebo:

- At week 24: patients treated with bempikibart showed a mean reduction in SALT score of 16% in the bempikibart group vs a reduction of 2% in the placebo group. A Wilcoxon Rank Sum test yielded a p-value of 0.045.
- At week 24: 9% of bempikibart patients in the trial achieved a SALT-20 (SALT score less than or equal to 20) compared to 0% in placebo.
- At week 26: 13% of bempikibart patients achieved SALT-20 compared 0% in placebo.

Bempikibart was observed to be safe and well tolerated in the SIGNAL-AA trial. There were no serious adverse events (SAE) or Grade 3 or higher adverse events related to treatment.

The Company plans to enroll approximately 20 additional patients in a Part B expansion of the SIGNAL-AA Phase 2a clinical trial to further evaluate bempikibart in AA, including a loading regimen. The Company will defer enrollment into the planned Phase 2 clinical trial of ADX-097 in ANCA-Associated Vasculitis (AAV), previously expected to begin in 2025, to focus efforts on continued enrollment in the ongoing bempikibart AA and ADX-097 renal basket Phase 2 clinical trials.

Topline Results from SIGNAL-AD Phase 2a Clinical Trial

SIGNAL-AD is a two-part Phase 2a, randomized, double-blind, placebo-controlled, multi-center clinical trial evaluating bempikibart in adult patients with persistent, moderate-to-severe AD. Part A (n=15) was conducted to evaluate safety, pharmacokinetics (PK), and to enable dose selection for Part B of the clinical trial. Part A was randomized 2:1 between bempikibart and placebo in each of two dose cohorts of 2mg/kg or 3mg/kg Q2W SC for 12 weeks.

In Part A, at week 14, improvement in average EASI score from baseline was 58% in patients treated with 2mg/kg Q2W SC and 84% in patients treated at 3mg/kg Q2W SC, and 72% on a pooled basis, compared to 38% in patients treated with placebo.

In Part B, which evaluated both efficacy and safety of bempikibart compared to placebo, patients were enrolled 1:1 in the bempikibart 200 mg Q2W SC (n=52) and placebo (n=54) arms for 12 weeks of treatment. The primary endpoint is the mean percent change from baseline to week 14 in the Eczema Area and Severity Index (EASI) score. At week 14, data from Part B demonstrated that patients treated with bempikibart showed a 74% improvement in average EASI from baseline, compared to 76% for the placebo group (p= not statistically significant). Results of the primary endpoint were generally consistent when stratified for pre-specified baseline entry criteria. Bempikibart was observed to be safe and well tolerated in the SIGNAL-AD trial. There were no serious adverse events (SAE) or Grade 3 or higher adverse events related to treatment. The Company plans to conduct a review of the SIGNAL-AD results.

Biomarker Results in SIGNAL-AD and SIGNAL-AA:

Across SIGNAL-AD and SIGNAL-AA, bempikibart at 200mg Q2W SC demonstrated favorable PK and target engagement as demonstrated by substantial reductions in biomarkers of Th2 and Th1. These results include:

- A reduction in Th2 biomarkers, including TARC, IgE and eosinophils, which was consistent with the type of biomarker impact previously observed with other agents that have demonstrated utility in atopic dermatitis, such as IL-4Rα, IL-13 and OX40 ligand-targeted agents.
- An expected modulation of T-cells, with a 20-30% reduction, consistent with target engagement and IL-7Rα blockade.

The Company believes these results demonstrate that bempikibart is a potent inhibitor of both TSLP and IL-7 signaling as evidenced by robust changes in both Th2 biomarkers and T-cells. The Company believes the mechanism of action of bempikibart has the potential to be active in other Th2 and Th1 driven diseases, including asthma, COPD, ulcerative colitis (UC), rheumatoid arthritis (RA), celiac disease, multiple sclerosis (MS) and others.

Forward-Looking Statements

This Current Report on Form 8-K contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995, as amended, and other federal securities laws,. Any statements contained herein which do not describe historical facts, including, among others, our beliefs, observations, expectations and assumptions regarding the topline data from the SIGNAL-AA Phase 2a and the safety, tolerability, clinical activity including biomarker data, potential efficacy and potential benefits of bempikibart; plans and expectations for Part B of the SIGNAL-AA Phase 2a clinical trial are forward-looking statements, which involve risks and uncertainties that could cause actual results to differ materially from those discussed in such forward-looking statements.

Forward-looking statements generally include statements that are predictive in nature and depend upon or refer to future events or conditions, and include words such as "may," "will," "should," "would," "expect," "anticipate," "plan," "likely," "believe," "estimate," "project," "intend," and other similar expressions among others. Statements that are not historical facts are forward-looking statements. Forward-looking statements are based on management's current beliefs and assumptions, which are subject to risks and uncertainties and are not guarantees of future performance. Such risks and uncertainties include, among others, the risk that additional data, or the results of ongoing data analyses, may not support our current beliefs and expectations for bempikibart; future clinical studies, including the Part B of the SIGNAL-AA Phase 2a clinical trial, may not be completed in a timely manner or at all, might be more costly than expected or might not yield anticipated results, the Company may need additional funding to complete its clinical studies, which may not be available on favorable terms or at all, and such other risks and uncertainties identified in the Company's periodic, current and other filings with the U.S. Securities and Exchange Commission, including its Quarterly Report on Form 10-Q for the quarter ended September 30, 2024 and any subsequent filings with the Commission, which are available at the SEC's website at www.sec.gov. Any such risks and uncertainties could materially and adversely affect the Company's results of operations and its cash flows, which would, in turn, have a significant and adverse impact on the Company's stock price. We caution you not to place undue reliance on any forward-looking statements, which speak only as of the date they are made. The Company disclaims any obligation to publicly update or revise any such statements to reflect any change in expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

99.1	Press Release issued by Q32 Bio Inc. on December 10, 2024
99.2	Corporate deck, dated as of December 2024
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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 hereunto duly authorized.

Q32 BIO INC.

Date: December 11, 2024

By: /s/ Jodie Morrison
Name: Jodie Morrison
Title: Chief Executive Officer

Exhibit 99.1

Q32 Bio Provides Bempikibart Program Update, Including Next Steps for Advancing Alopecia Areata Development Program

— SIGNAL-AA demonstrated encouraging clinical activity of bempikibart in patients with alopecia areata (AA), including improvement from baseline on SALT score and meaningful achievement of SALT-20 response —

— SIGNAL-AD Phase 2a clinical trial in atopic dermatitis demonstrated promising findings in Part A but did not meet primary endpoint in Part B —

— Across both trials, bempikibart was observed to be safe and well tolerated; demonstrated potent IL-7 and TSLP inhibition via changes in both Th2 biomarkers and T-cells, and desired target engagement —

— Based on these results, Company plans to advance bempikibart in patients with AA —

WALTHAM, Mass.— December 10, 2024 – Q32 Bio Inc. (Nasdaq: QTTB) ("Q32 Bio"), a clinical stage biotechnology company focused on developing biologic therapeutics to restore immune homeostasis, today announced topline results from the SIGNAL-AA Phase 2a signal finding clinical trial evaluating bempikibart (ADX-914), which identified encouraging clinical activity in patients with alopecia areata (AA). The Company plans to expand the SIGNAL-AA Phase 2a clinical trial and enroll additional patients evaluating bempikibart in AA.

"We are pleased with the emerging signals observed in the SIGNAL-AA Phase 2a clinical trial and based upon these, the positive biomarker data and well tolerated safety profile observed across both trials, we plan to enroll additional patients into the SIGNAL-AA clinical trial to further explore the clinical effects of bempikibart in this patient population. We believe bempikibart has the potential to be an important new treatment option in a disease needing new and safer alternatives to currently approved agents," said Jodie Morrison, Chief Executive Officer of Q32 Bio. "We are disappointed that the SIGNAL-AD trial did not achieve its primary endpoint. Based upon the findings, including the high placebo rate, we plan to conduct a review to better understand the results."

"Results from our analysis of SIGNAL-AA showed clinically meaningful activity and a safety profile that we believe is differentiated from the currently approved therapies for AA. We are encouraged by our findings from this clinical trial, and we look forward to advancing bempikibart as a potential treatment for AA," said Jason Campagna, M.D., Ph.D., Chief Medical Officer of Q32 Bio. "On behalf of Q32 Bio, I want to express my gratitude to the patients, their caregivers, and clinical trial sites that participated across both our bempikibart Phase 2a trials."

The Company is also providing an update on the SIGNAL-AD clinical trial in patients with atopic dermatitis (AD). Although the Company is reporting promising findings in Part A, the trial did not meet its primary endpoint in Part B. Q32 Bio plans to conduct a review of the results.

Topline Results from SIGNAL-AA Phase 2a Clinical Trial:

SIGNAL-AA is a Phase 2a, randomized, double-blind, placebo-controlled, multi-center clinical trial evaluating bempikibart in adult patients with severe and very severe AA (baseline Severity of Alopecia Tool (SALT) scores of 50-100) treated over 24 weeks, with follow-up through 36 weeks. The study is being conducted to evaluate the efficacy and safety of bempikibart 200 mg administered subcutaneously (SC), every-other-week (Q2W) compared to placebo. A total of 44 patients were enrolled in the trial with a primary endpoint of the mean relative percent change in SALT score at 24 weeks compared with baseline.

Following database lock, one site was excluded from the efficacy analysis based on marked protocol violations of entry criteria. This resulted in the removal of three placebo patients, rendering the planned statistical analyses for the primary endpoint inappropriate due to the reduced sample size. On a post-hoc analysis of the remaining per-protocol population of patients with AA (n=27), bempikibart demonstrated an improvement in hair re-growth compared to placebo:

- At week 24: patients treated with bempikibart showed a mean reduction in SALT score of 16% in the bempikibart group vs a reduction of 2% in the placebo group. A Wilcoxon Rank Sum test yielded a p-value of 0.045.
- At week 24: 9% of bempikibart patients in the trial achieved a SALT-20 (SALT score less than or equal to 20) compared to 0% in placebo.
- At week 26: 13% of bempikibart patients achieved SALT-20 compared 0% in placebo.

Bempikibart was observed to be safe and well tolerated in the SIGNAL-AA trial. There were no serious adverse events (SAE) or Grade 3 or higher adverse events related to treatment.

“Advancing bempikibart in AA is supported by preclinical data demonstrating the potential of IL-7Rα inhibition in this disease, and now the resulting data from SIGNAL-AA demonstrated the clinical potential of an IL-7Rα inhibitor in AA. I am encouraged by the biomarker data that provide evidence of biological activity, the safety profile of bempikibart, and the clinical signal of hair regrowth in patients,” said Brett King, M.D., Ph.D., of Dermatology Physicians of Connecticut, and former Associate Professor of Dermatology, Yale University School of Medicine. “I believe these clinical results are promising and warrant further advancement to expand upon these findings.”

Q32 Bio plans to enroll approximately 20 additional patients in a Part B expansion of the SIGNAL-AA Phase 2a clinical trial to further evaluate bempikibart in AA, including a loading regimen. The Company will defer enrollment into the planned Phase 2 clinical trial of ADX-097 in ANCA-Associated Vasculitis (AAV), previously expected to begin in 2025, to focus efforts on continued enrollment in the ongoing bempikibart AA and ADX-097 renal basket Phase 2 clinical trials.

Topline Results from SIGNAL-AD Phase 2a Clinical Trial:

SIGNAL-AD is a two-part Phase 2a, randomized, double-blind, placebo-controlled, multi-center clinical trial evaluating bempikibart in adult patients with persistent, moderate-to-severe AD. Part A (n=15) was conducted to evaluate safety, pharmacokinetics (PK), and to enable dose selection for Part B of the clinical trial. Part A was randomized 2:1 between bempikibart and placebo in each of two dose cohorts of 2mg/kg or 3mg/kg Q2W SC for 12 weeks.

In Part A, at week 14, improvement in average EASI score from baseline was 58% in patients treated with 2mg/kg Q2W SC and 84% in patients treated at 3mg/kg Q2W SC, and 72% on a pooled basis, compared to 38% in patients treated with placebo.

In Part B, which evaluated both efficacy and safety of bempikibart compared to placebo, patients were enrolled 1:1 in the bempikibart 200 mg Q2W SC (n=52) and placebo (n=54) arms for 12 weeks of treatment. The primary endpoint is the mean percent change from baseline to week 14 in the Eczema Area and Severity Index (EASI) score. At week 14, data from Part B demonstrated that patients treated with bempikibart showed a 74% improvement in average EASI from baseline, compared to 76% for the placebo group (p= not statistically significant). Results of the primary endpoint were generally consistent when stratified for pre-specified baseline entry criteria. Bempikibart was observed to be safe and well tolerated in the SIGNAL-AD trial. There were no serious adverse events (SAE) or Grade 3 or higher adverse events related to treatment. Q32 Bio plans to conduct a review of the SIGNAL-AD results.

Biomarker Results in SIGNAL-AD and SIGNAL-AA:

Across SIGNAL-AD and SIGNAL-AA, bempikibart at 200mg Q2W SC demonstrated favorable PK and target engagement as demonstrated by substantial reductions in biomarkers of Th2 and Th1. These results include:

- A reduction in Th2 biomarkers, including TARC, IgE and eosinophils, which was consistent with the type of biomarker impact previously observed with other agents that have demonstrated utility in atopic dermatitis, such as IL-4Rα, IL-13 and OX40 ligand-targeted agents.
- An expected modulation of T-cells, with a 20-30% reduction, consistent with target engagement and IL-7Rα blockade.

Q32 Bio believes these results demonstrate that bempikibart is a potent inhibitor of both TSLP and IL-7 signaling as evidenced by robust changes in both Th2 biomarkers and T-cells. The Company believes the mechanism of action of bempikibart has the potential to be active in other Th2 and Th1 driven diseases, including asthma, COPD, ulcerative colitis (UC), rheumatoid arthritis (RA), celiac disease, multiple sclerosis (MS) and others.

“These impressive biomarker data represent a meaningful advancement in the clinical understanding of how inhibition of IL-7Rα can be leveraged to treat autoimmune and inflammatory diseases,” said Shelia Violette, Ph.D., Co-Founder and Chief Scientific Officer of Q32 Bio. “Based upon its observed mechanism of action, bempikibart continues to show strong potential as an IL-7Rα inhibitor to treat AA and other diseases.”

The Company has published an updated investor presentation with additional details regarding the bempikibart update for review by interested parties. The updated presentation can be found on the company website at www.Q32Bio.com under Investors & Media.

About Q32 Bio

Q32 Bio is a clinical stage biotechnology company developing biologic therapeutics targeting potent regulators of the innate and adaptive immune systems to re-balance immunity in autoimmune and inflammatory diseases. Q32 Bio's lead programs, focused on the IL-7 / TSLP receptor pathways and complement system, address immune dysregulation to help patients take back control of their lives.

Q32 Bio's program for adaptive immunity, bempikibart (ADX-914), is a fully human anti-IL-7Rα antibody that re-regulates adaptive immune function for the treatment of autoimmune diseases being evaluated in a Phase 2 program. The IL-7 and TSLP pathways have been genetically and biologically implicated in driving several T cell-mediated pathological processes in numerous autoimmune diseases. Q32 Bio's program for innate immunity, ADX-097, being evaluated in a Phase 2 program, is based on a novel platform enabling tissue-targeted regulation of the complement system without long-term systemic blockade – a key differentiator versus current complement therapeutics.

For more information, visit www.Q32Bio.com.

Availability of Other Information About Q32 Bio

Investors and others should note that we communicate with our investors and the public using our company website www.Q32Bio.com, including, but not limited to, company disclosures, investor presentations and FAQs, Securities and Exchange Commission filings, press releases, public conference call transcripts and webcast transcripts, as well as on X (formerly Twitter) and LinkedIn. The information that we post on our website or on X or LinkedIn could be deemed to be material information. As a result, we encourage investors, the media and others interested to review the information that we post there on a regular basis. The contents of our website or social media shall not be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended.

Forward-Looking Statements

This communication contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995, as amended, and other federal securities laws. Any statements contained herein which do not describe historical facts, including, among others, our beliefs, observations, expectations and assumptions regarding the topline data from the SIGNAL-AA Phase 2a and the safety, tolerability, clinical activity including biomarker data, potential efficacy and potential benefits of bempikibart; plans and expectations for Part B of the SIGNAL-AA Phase 2a clinical trial are forward-looking statements, which involve risks and uncertainties that could cause actual results to differ materially from those discussed in such forward-looking statements.

Forward-looking statements are based on management's current beliefs and assumptions, which are subject to risks and uncertainties and are not guarantees of future performance. Such risks and uncertainties include, among others, the risk that additional data, or the results of ongoing data analyses, may not support our current beliefs and expectations for bempikibart, future clinical studies, including the Part B of the SIGNAL-AA Phase 2a clinical trial, may not be completed in a timely manner or at all, might be more costly than expected or might not yield anticipated results, the Company may need additional funding to complete its clinical studies, which may not be available on favorable terms or at all, and such other risks and uncertainties identified in the Company's periodic, current and other filings with the U.S. Securities and Exchange Commission, including its Quarterly Report on Form 10-Q for the quarter ended September 30, 2024 and any subsequent filings with the Commission, which are available at the SEC's website at www.sec.gov. Any such risks and uncertainties could materially and adversely affect the Company's results of operations and its cash flows, which would, in turn, have a significant and adverse impact on the Company's stock price. We caution you not to place undue reliance on any forward-looking statements, which speak only as of the date they are made. The Company disclaims any obligation to publicly update or revise any such statements to reflect any change in expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Contacts:

Investors: Brendan Burns
Media: Sarah Sutton
Argot Partners
212.600.1902
Q32Bio@argotpartners.com

Exhibit 99.2

Q32 BIO

Building The Future of Immune Therapeutics

Company Overview

December 2024

Forward Looking Statements

This presentation has been prepared by Q32 Bio Inc. ("we", "us," "our," "Q32" or the "Company") and is made for informational purposes only. The information set forth herein does not purport to be complete or contain all of the information you may desire. Statements contained herein are made as of the date of this presentation unless stated otherwise, and this presentation shall not under any circumstances create an implication that the information contained herein is correct as of any time after such date or that information will be updated or revised to reflect information that subsequently becomes available or changes occurring after the date hereof.

This presentation contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as "may," "will," "should," "would," "expect," "anticipate," "plan," "likely," "believe," "estimate," "project," "intend," "potential," and similar expressions regarding future periods. These forward-looking statements include, but are not limited to, our beliefs, observations, expectations and assumptions regarding the topline data from the SIGNAL-AA Phase 2a and the safety, tolerability, clinical activity including biomarker data, potential efficacy and potential benefits of bempikibart, plans and expectations for Part B of the SIGNAL-AA Phase 2a clinical trial statements regarding expected cash and the sufficiency of the Company's cash to fund operations into mid- 2026, the expectations surrounding the potential, safety, efficacy, and regulatory and clinical progress of Q32's product candidates, including bempikibart and ADX-097, and anticipated milestones, data readouts and timing, among others. Statements that are not historical facts are forward-looking statements. Forward-looking statements are based on current beliefs and assumptions that are subject to risks and uncertainties and are not guarantees of future performance. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: the Company's need for additional funding, which may not be available; failure to identify additional product candidates and develop or commercialize marketable products; the early stage of the Company's development efforts; potential unforeseen events during clinical trials could cause delays or other adverse consequences; risks relating to the regulatory approval process; interim, topline and preliminary data may change as more patient data become available, and are subject to audit and verification procedures that could result in material changes in the final data; Q32's product candidates may cause serious adverse side effects; inability to maintain our collaborations, or the failure of these collaborations; our reliance on third parties, including for the manufacture of materials for our research programs, preclinical and clinical studies; failure to obtain U.S. or international marketing approval; ongoing regulatory obligations; effects of significant competition; unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives; product liability lawsuits; securities class action litigation; the impact of the COVID-19 pandemic and general economic conditions on our business and operations, including our preclinical studies and clinical trials; the possibility of system failures or security breaches; risks relating to intellectual property and our ability to protect our patents and other proprietary rights; significant costs incurred as a result of operating as a public company; as well as those risk and uncertainties set forth more fully under the caption "Risk Factors" in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2024, as well as other risks detailed in our subsequent filings with the United States Securities and Exchange Commission. Any forward-looking statement made by us is based only on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.

Certain information contained in this presentation relates to or is based on studies, publications, analyses, surveys and other data obtained from third-party sources and the Company's own internal estimates and research. While the Company believes these third-party sources to be reliable as of the date of this presentation, it has not independently verified, and makes no representation as to the adequacy, fairness, accuracy or completeness of, any information obtained from third-party sources. In addition, all of the market data included in this presentation involves a number of assumptions and limitations, and there can be no guarantee as to the accuracy or reliability of such assumptions. Finally, while we believe our own internal research is reliable, such research may not have been verified by any independent source.

Q32 Mission: Building The Future of Immune Therapeutics

IL-7Rα Antagonist Antibody	• Bempikibart (ADX-914): Dual inhibitor of IL-7 and TSLP signaling; potent inhibition observed by clinical biomarkers, with potential to treat both Th1 and Th2 mediated diseases • Ph2a data show attractive PK/PD profile, favorable safety and tolerability profile w/Q2W subcutaneous dosing • SIGNAL-AA demonstrated clinical activity of bempikibart in patients with alopecia areata (AA), including improvement from baseline on SALT score and meaningful achievement of SALT-20 response • Currently in ongoing Ph2 clinical trials: Alopecia Areata (AA) advancing into Part B
Novel Tissue-targeted Complement Platform with Clinical Asset	• Differentiated, proprietary approach to address complement dysregulation directly at the site of impacted tissue • ADX-097: Designed to catalytically degrade alternative pathway convertases, gaining control of the amplification loop and all 3 complement pathways • Ph1 ADX-097 data show attainment of dose-dependent target PK/PD, favorable tolerability and good immunogenicity profile with Q1W SC dosing • Currently in a Ph2 renal basket trial
Near Term Value Creation Potential	• **1H'25 – Bempikibart AA Ph2a:** Initiate enrollment in SIGNAL-AA Part B • **1H'25 – ADX-097 Renal basket Ph2:** Initial data • **2H'25 – ADX-097 Renal basket Ph2:** Topline results
Exceptional Team and Investors	• Management team with extensive public biotech experience • Deep complement therapeutics and inflammatory/autoimmune expertise

Q32 Pipeline: Poised to Deliver Multiple Near-term Clinical Readouts

Program	Indication	Discovery/ Preclinical	Phase 1	Phase 2	Anticipated Milestones
IL-7/TSLP PROGRAM					
Bempikibart[1] (ADX-914)	Alopecia Areata				*Initiate Part B enrollment 1H'25*
COMPLEMENT INHIBITOR PLATFORM					
ADX-097	Renal Basket (IgAN, LN, C3G)				*Topline results 2H'25*

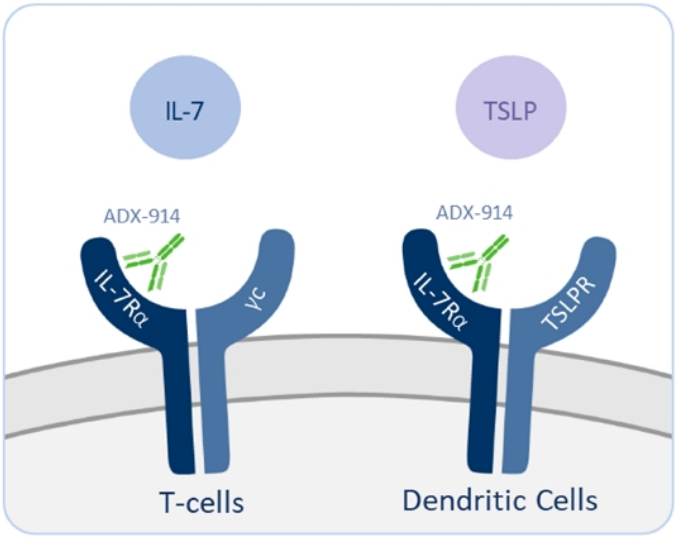
Q32 BIO

Note: IgAN = IgA Nephropathy; LN = Lupus Nephritis; C3G = C3 Glomerulopathy.

Bempikibart (ADX-914)
(IL-7 / TSLP Receptor Inhibitor)

Bempikibart: Investigational Therapy for T-cell Mediated Inflammatory and Autoimmune Diseases With Demonstrated Clinical Activity

Bempikibart: IL-7Rα antagonist antibody blocks IL-7 and TSLP signaling



IL-7

- Potent regulator of pathogenic T_{eff} / T_{mem} survival and proliferation
- Suppresses T_{reg} cells
- Activates TfH cells to induce B-cell mediated antibody production

TSLP

- Central regulator of DC differentiation and Th2 cytokine production
- Activates Th1, sensory neurons, mast cells, eosinophils, basophils and ILC2

Clinical Data Generated to Date

- Ph1: Durable SC PK/PD and tolerability
- Ph2 AA Part A: Demonstrated encouraging clinical activity; well-tolerated safety profile; PK/PD demonstrated desired exposures, target engagement and inhibition of Th2 and Th1 biomarkers
- Ph2 AD: Well-tolerated safety profile; PK/PD demonstrated desired exposures, target engagement and inhibition of Th2 and Th1 biomarkers

IL-7 and TSLP are Central Drivers of Inflammation and Autoimmunity

Pathogenic Immune Response	Ligand/Receptor Activation	Preclinical Evidence
• Induction of pathogenic T-eff/ T-mem and ILC2 cells • Inhibition of T-reg function • Increased Th-helper cell mediated antibody production • Activation of Th2 immune response	• Elevated IL-7 and sIL-7Rα in disease • Increased TSLP signaling in disease • Increased IL-7 and TSLP transcriptional signature in disease	• Overexpression of IL-7 or TSLP recapitulates disease pathology • Blocking IL-7 & TSLP pathways exerts protective effects in multiple models • Potential for long-term, durable responses and remittive therapy

Blockade of IL-7 and TSLP has therapeutic potential in a broad range of inflammatory and autoimmune diseases

Bempikibart Shows Potential to be Best in Class IL-7Rα Antibody

	Bempikibart **Q32 Bio** (IgG1 Effector-less)	**Lusvertikimab (OSE-127)** **OSE** (IgG4)	**ZB-168** **Zura Bio (formerly Pfizer)** (IgG1)	**GSK-2618960** **GSK** (IgG1)
Active in development	✓	✓	**Not currently funded[1]**	✗
Antagonist	✓	✓	--	✗
PK/PD supports current single-injection SC formulation	✓	✗	✗	✗
Fully human	✓	✗	✓	✗
Antibody generation	Medarex (fully human)	Rat mAb (humanized)	Phage library	Murine mAb (humanized)
IL-7R binding on cells ($EC_{50,}$ nM)[2]	0.08	0.24	0.04	0.32
IL-7Rα binding affinity, biacore (K_D, nM)[2]	0.09	0.16	0.13	0.23
Inhibition of IL-7 induced pSTAT5 in T-cells (IC_{50} nM)[2]	0.22	0.31	0.37	0.41
Inhibition of TSLP induced signaling in monocytes (IC_{50} nM)[2]	2.88	1.07	0.20	7.47

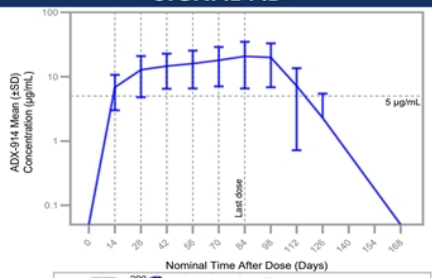
Bempikibart at 200 mg clinically demonstrated potent IL-7 and TSLP inhibition via changes in Th2 biomarkers and T-cells[3]

[1]Zura Bio, https://investors.zurabio.com/news-events/presentations; development dependent on additional financing and pending topline data from other programs
[2]Company data; data were generated by Q32 Bio in side-by-side assay of bempikibart vs comparator IL-7Rα mAb analogues
[3]Results from Phase 2a SIGNAL-AA and SIGNAL-AD clinical trials

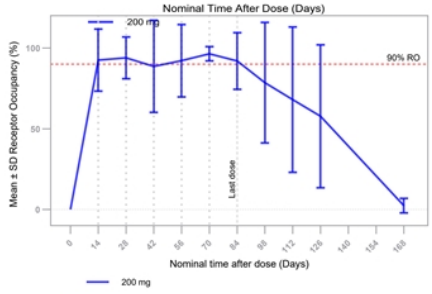
Favorable PK and Receptor Occupancy (RO) Achieved in Phase 2a Clinical Trials

SIGNAL-AD

PK

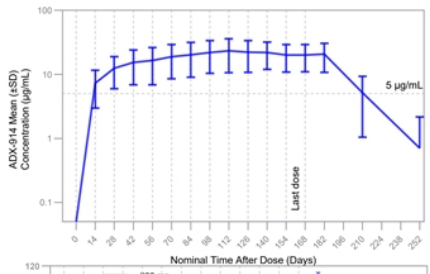


RO

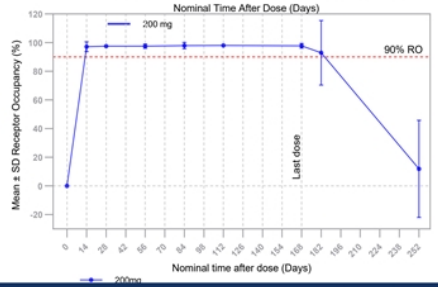


SIGNAL-AA

PK



RO



Bempikibart 200mg achieved >5µg/mL mean concentration and >90% RO in 85%-90% of patients, consistent with Phase 1 results

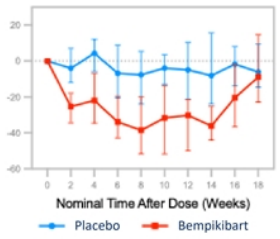
Figures depict PK and RO for all enrolled patients in SIGNAL-AD and SIGNAL-AA except samples impacted by missed dose (PK) or samples impacted by missed dose or assay deviation (RO)

Biomarker Results in SIGNAL-AD: Substantial Reductions Observed in Phase 2a Clinical Trials Suggesting Potent Inhibition of TSLP and IL-7 Mediated Signaling

Th2 Biomarkers: SIGNAL-AD

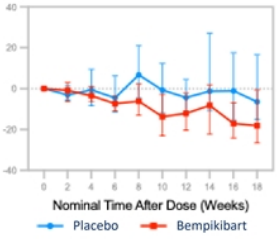
Median Changes Over Time (95% CI)

TARC



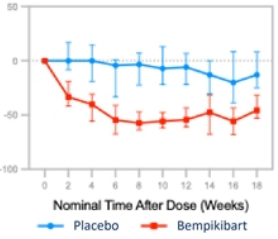
Statistically significant difference wks 6-10 ($p < 0.05$)

IgE



Treatment resulted in up to -18% reduction at wk 18

Eosinophils

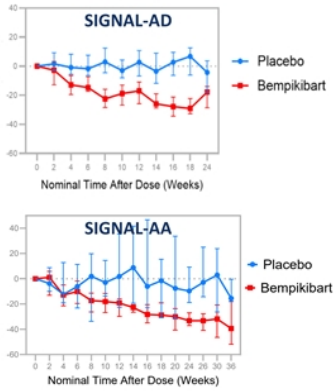


Statistically significant difference wks 2-12, 16, 18 ($p < 0.05$)

Th1 Biomarkers: SIGNAL AD and AA

Median Changes Over Time (95% CI)

Absolute Lymphocytes



SIGNAL-AD: significant difference wks 4-18 ($p < 0.05$); SIGNAL-AA: significant difference wks 10, 24, 26 ($p < 0.05$)

Patients treated for 12 weeks in SIGNAL-AD, 24 weeks in SIGNAL-AA; biomarker and absolute lymphocyte analyses included all subjects, excluding samples impacted by protocol deviations

SIGNAL-AA: Bempikibart Phase 2a Clinical Trial in Alopecia Areata

Alopecia Areata

Alopecia Areata is common, and psychosocially debilitating; scalp and face commonly impacted

- Autoimmune disease, often associated with atopic disorders (atopic dermatitis, asthma, allergic rhinitis)
- Affects ~2% of the population, often manifesting before age 50
- Up to 40% become chronic, including complete loss of scalp* and/or body hair**, severity of disease and long duration of episode each associated with more gradual and lower rates of treatment response

Despite JAKi approvals, there remains significant medical need

- Current lack of options for inducing remission, avoiding life-long treatment (JAK inhibitors require chronic treatment and hair loss reoccurs with treatment cessation or taper)
- JAK inhibitors have shown efficacy, but also associated with significant adverse events (i.e. black box warnings)

Design/Timeline

Part A and B

- **Part A (n=44) Key Assessments: 200mg SC Q2W vs placebo (3:1) 24-week treatment (completed), 12-week follow up:**
  - Primary: Mean % change from baseline in SALT score at Week 24
  - Key Secondaries: Time to SALT change, proportion of patients achieving SALT thresholds
  - Change from Baseline in Clinician Reported Outcome (ClinRO) for Eyebrow and Eyelash Hair Loss
- **Planned Part B:**
  - Further evaluate bempikibart in AA to expand upon encouraging activity observed to date
  - Intend to enroll ~20 additional patients in an open-label expansion, expected to include a loading regimen
  - Changes in SALT from baseline
  - **Timeline: Enrollment expected to initiate in 1H25**

*Alopecia Totalis; **Alopecia Universalis

SIGNAL-AA: Baseline Characteristics

mITT (n=44)		
	Bempikibart 200 mg (n=33)	**Placebo (n=11)**
Gender (n, %)	Female (27, 81.8%)	Female (7, 63.6%)
Age (years, Mean ± SD)	48.8 ± 10.2	47.1 ± 14.2
Race (n, %)	White (19, 57.6%) Black /African American (10, 30.3%) American Indian/Alaska Native (1, 3.0%) Asian (1, 3.0%) Missing (2, 6.0%)	White (4, 36.4%) Black/African American (6, 54.5%) Asian (1, 9.1%)
Body weight (kg, Mean ± SD)	82.7 ± 13.9	85.1 ± 16.9
Baseline SALT Scores (Mean ± SD)	75.0 ± 20.3	75.5 ± 21.6
Duration of current episode (months Mean ± SD)	68.5 ± 36.2	51.7 ± 36.5

Revised Per Protocol[1] (n=27)		
	Bempikibart 200 mg (n=23)	**Placebo (n=4)**
Gender (n, %)	Female (18, 78.3%)	Female (2, 50.0%)
Age (years, Mean ± SD)	47.7 ± 11.3	59.8 ± 11.9
Race (n, %)	White (14, 60.9%) Black/African American (7, 30.4%) Other (2, 8.7%)	White (3, 75.0%) Black/African American (1, 25.0%)
Body weight (kg, Mean ± SD)	81.9 ± 14.2	82.3 ± 12.2
Baseline SALT Scores (Mean ± SD)	75.4 ± 20.7	88.4 ± 22.5
Duration of current episode (months, Mean ± SD)	58 ± 37.2	36.5 ± 21.2

[1] Table reflects Revised Per-Protocol Population (defined as pre-specified per-protocol population removing 3 placebo patients from one site excluded for marked protocol violations of entry criteria)

SIGNAL-AA: Key Efficacy Findings

Endpoint (Post-Hoc Analysis)	Bempikibart 200 mg (N=23)	Placebo (N=4)
Mean reduction in SALT score (Week 24)[1] *Wilcoxon Rank Sum p-value 0.045*[2]	16%	2%
SALT-20 (Week 24)	9%	0%
SALT-20 (Week 26)	13%	0%

[1]Table reflects Revised Per-Protocol Population. Results for Revised mITT Population (defined as pre-specified mITT population removing 3 patients with no evaluable post-baseline SALT score and 3 placebo patients from one site excluded for marked protocol violations of entry criteria): 12% bempikibart (n=32) vs. 5% placebo (n= 6), p-value NS (not shown on table)

[2]Due to resulting sample size following removal of the excluded site patients, normality and equal variance assumptions were not met for the planned statistical analyses. Given lack of normality caused by small sample size, Wilcoxon Rank Sum test was selected as most appropriate to compare the responses in each group (p= 0.045). A randomized permutation test with 10,000 permutations further confirmed the statistical significance of treated response over placebo by Wilcoxon Rank-Sum test (p=0.0432). Welch's t-test was also considered (p-value of 0.0318) assuming normality to be met with a larger sample size

SIGNAL-AA: SALT Improvement Over Time

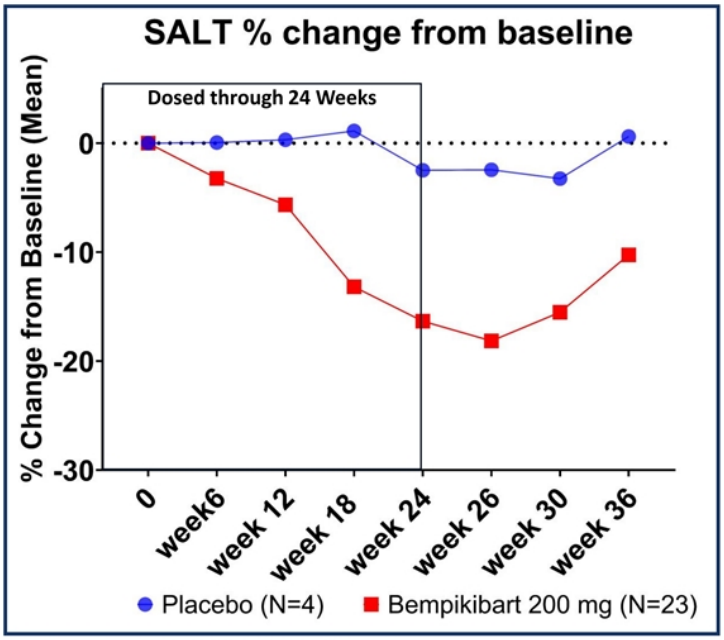


Figure reflects Revised Per-Protocol Population

KEY FINDINGS:

Clinical Activity Observed in SIGNAL-AA

- Mean change in SALT 16% vs 2% for placebo (Week 24)
- Mean change in SALT 18% vs 2% for placebo (Week 26)
- SALT-20 achieved in 9% at Week 24, 13% at Week 26

Activity Observed Despite Difficult to Treat Population

- Mean duration of current episode 58 months (~5 yrs)
- Duration of current episode (>4 yrs) associated with more gradual responders, late responders, and lower percentage of patients achieving SALT-20[1]

1 King, B World Congress of Dermatology 2023

SIGNAL-AA: Change in SALT Score by Patient at Week 24

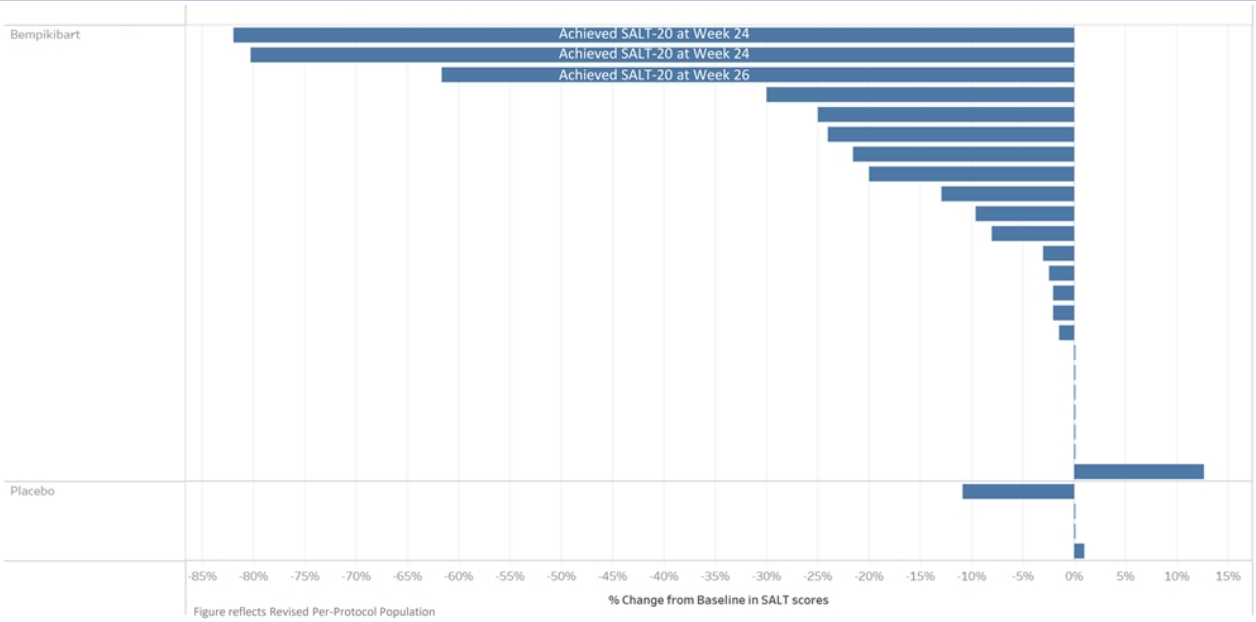


Figure reflects Revised Per-Protocol Population

SIGNAL-AA and SIGNAL-AD: Favorable Safety and Tolerability Profile

	Bempikibart 200 mg (N=96) n (%) [E]	Placebo (N=69) n (%) [E]
Participants with at least one TEAE	55 (57.2) [154]	30 (43.5) [76]
Participants with at least one TEAE by greatest reported relationship with study treatment [a]		
Not related	28 (29.2) [43]	23 (33.3) [47]
Related	27 (28.1) [68]	7 (10.1) [12]
Participants with at least one TEAE by worst reported severity CTCAE grade [b]		
Grade 1 - Mild	30 (31.2) [49]	13 (18.8) [27]
Grade 2 - Moderate	20 (20.8) [21]	15 (21.7) [22]
Grade 3 - Severe	4 (4.1) [6]	2(2.9) [2]
Grade 4 - Life threatening	1 (1) [1]	0 [0]
Grade 5 - Death	0 [0]	0 [0]

No Grade 3 or Higher Bempikibart Related Adverse Events

Grade 3 (n=6): 5 not related; 1 possibly related to study treatment (placebo arm)

Grade 4 (n=1): 0 related to study treatment

SIGNAL-AA and SIGNAL-AD: Adverse Events of Special Interest (Infections)

SIGNAL-AD PART A & B

	Bempikibart N=63		Placebo N=58	
	Related n (%)	Not Related n (%)	Related n (%)	Not Related n (%)
Infections and infestations	3 (4.8)	12 (19.0)	0	9 (15.5)
Events				
Upper respiratory tract infection	1 (1.6)	5 (7.9)	0	2 (3.4)
Nasopharyngitis	0	4 (6.3)	0	2 (3.4)
Herpes virus infection	0	1 (1.6)	0	1 (1.7)
Acute sinusitis	0	1 (1.6)	0	0
COVID-19	0	1	0	1 (1.7)
Candida infection	0	1 (1.6)	0	0
Conjunctivitis	0	1 (1.6)	0	0
Ear infection	1 (1.6)	0	0	0
Folliculitis	1 (1.6)	0	0	0
Gastrointestinal viral infection	0	1 (1.6)	0	0
Gastroenteritis	0	0	0	1 (1.7)
Hordeolum	0	1 (1.6)	0	0
Influenza	0	0	0	1 (1.7)
Oral herpes	0	1 (1.6)	0	0
Otitis media	0	1 (1.6)	0	0
Paronychia	0	0	0	1 (1.7)
Skin infection	0	0	0	1 (1.7)
Streptococcal infection	0	1 (1.6)	0	0
Urinary tract infection	0	2 (3.2)	0	1 (1.7)

n=1 Lymphocyte Count Decreased SIGNAL AD; Grade 2

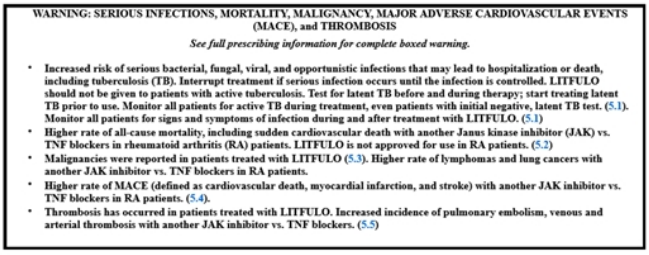
SIGNAL-AA

	Bempikibart N=33		Placebo N=11	
	Not Related n (%)	Related n (%)	Not Related n (%)	Related n (%)
Infections and infestations	12 (36.4)	1 (3.0)	1 (9.1)	2 (18.2)
Events				
Urinary tract infection	3 (9.1)	0	1 (9.1)	1 (9.1)
COVID-19	3 (9.1)	0	0	0
Viral upper respiratory tract infection	2 (6.1)	0	1 (9.1)	0
Folliculitis	0	1 (3.0)	0	1 (9.1)
Nasopharyngitis	2 (6.1)	0	0	0
Cellulitis	0	0	1 (9.1)	0
Diverticulitis	1 (3.0)	0	0	0
Gastroenteritis viral	1 (3.0)	0	0	0
Herpes simplex	1 (3.0)	0	0	0
Hordeolum	1 (3.0)	0	0	0
Otitis externa	1 (3.0)	0	0	0
Pulpitis dental	1 (3.0)	0	0	0
Upper respiratory tract infection	1 (3.0)	0	0	0

n=7 Lymphocyte Count Decreased in SIGNAL AA; All grades 1/2

Current Landscape of Marketed Agents for AA

- **Olumiant (baricitinib) approved in 2022, Litfulo (ritlecitinib) approved in 2023**
- **Both carry classwide Black Box Warning:**



WARNING: SERIOUS INFECTIONS, MORTALITY, MALIGNANCY, MAJOR ADVERSE CARDIOVASCULAR EVENTS (MACE), and THROMBOSIS

See full prescribing information for complete boxed warning.

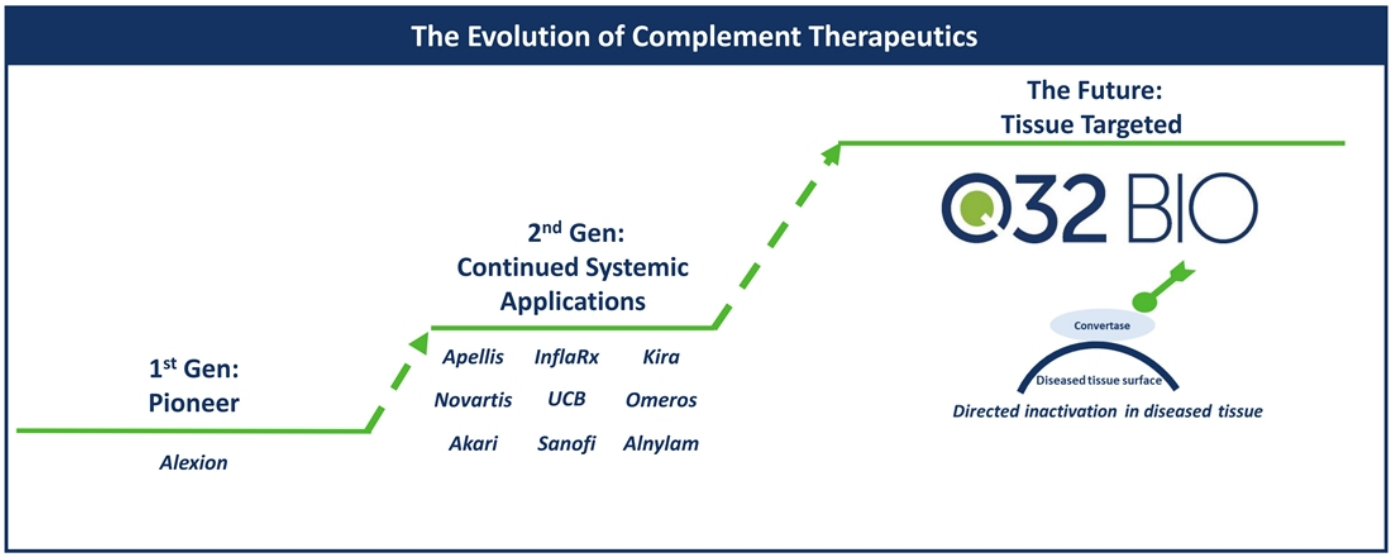
- **Increased risk of serious bacterial, fungal, viral, and opportunistic infections that may lead to hospitalization or death, including tuberculosis (TB). Interrupt treatment if serious infection occurs until the infection is controlled. LITFULO should not be given to patients with active tuberculosis. Test for latent TB before and during therapy; start treating latent TB prior to use. Monitor all patients for active TB during treatment, even patients with initial negative, latent TB test. (5.1). Monitor all patients for signs and symptoms of infection during and after treatment with LITFULO. (5.1)**
- **Higher rate of all-cause mortality, including sudden cardiovascular death with another Janus kinase inhibitor (JAK) vs. TNF blockers in rheumatoid arthritis (RA) patients. LITFULO is not approved for use in RA patients. (5.2)**
- **Malignancies were reported in patients treated with LITFULO (5.3). Higher rate of lymphomas and lung cancers with another JAK inhibitor vs. TNF blockers in RA patients.**
- **Higher rate of MACE (defined as cardiovascular death, myocardial infarction, and stroke) with another JAK inhibitor vs. TNF blockers in RA patients. (5.4).**
- **Thrombosis has occurred in patients treated with LITFULO. Increased incidence of pulmonary embolism, venous and arterial thrombosis with another JAK inhibitor vs. TNF blockers. (5.5)**

- **Olumiant approved recommended dose for AA: 2mg once daily**
  - Phase 3 SALT-20 at Week 24: 13% (BRAVE-AA1: 7% placebo-adjusted, BRAVE-AA2: 11% placebo-adjusted)[1]
- **Litfulo approved dose for AA: 50mg once daily**
  - Phase 3 SALT-20 at Week 24: 23% (21% placebo adjusted)[2]
- **Doctors and patients seeking alternatives to currently approved agents[3]**
  - Desire for safer options to currently available treatments

1 King B, et al. Two Phase 3 Trials of Baricitinib for Alopecia Areata, N Engl J Med 2022
2 https://www.accessdata.fda.gov/drugsatfda_docs/label/2023/215830s000lbl.pdf
3 Source: Wells Fargo Research, "Takeaways from Our Investor Lunch with Management and Alopecia Areata KOL" Oct 31, 2024

Tissue Targeted Platform: Building The Future of Complement Therapeutics

Proprietary Tissue-targeted Platform: Building The Future of Complement Therapeutics



Q32 Tissue-targeted Platform Value Proposition: Designed to Enable Clinical Profile Superior to Systemic Complement Inhibitors

The Unmet Need	The Opportunity
• **Limited activity:** Reliant on systemic blockade for impact on affected organ	• **Enhanced activity through tissue targeting:** Differentiated approach to driving efficacy by inactivating convertases directly at site of destruction
• **High doses, frequent administration required:** High abundance, rapid turnover of most target complement proteins	• **Reduced treatment burden**: SC route with QW dosing; potential for Q2W
• **Infection risk:** Complement plays critical role in combating infection; systemic blockade increases risk	• **Improved risk/benefit profile**: Designed to maximize therapeutic index while maintaining intact immune surveillance; broader indication potential

ADX-097
(C3d targeted antibody – fH_{1-5} fusion protein)

ADX-097: A Novel Tissue-Targeted Approach to Regulating the Complement System

ADX-097 Design: C3d antibody – fH_{1-5}

ADX-097 Construct: humanized anti-C3d mAb linked to two moieties of a negative regulatory protein (fH_{1-5})

- Designed to be active at the site of complement activation in the tissue without systemic impact
- Inactivation of alternative pathway convertases gains control of amplification loop and all 3 complement pathways

Clinical Data Completed to Date:

- Ph1 completed: supported dose selection and continued advancement
- 450mg SC QW selected: Ph1 confirmed SC dosing (with possibility to further reduce frequency), demonstrated exposures above predicted range for clinical activity, while below systemic inhibition

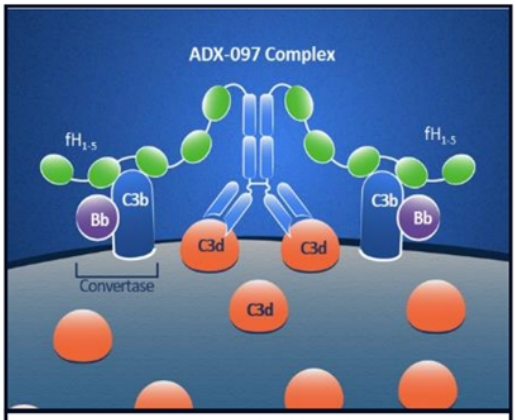
Topline Data Expected 2H'25

- Renal basket Ph2 topline data (initial data 1H'25)

ADX-097 Lead Bivalent Fusion Protein: Designed with Unique MOA to Drive Localized, Complement Re-regulation For Enhanced Activity and Tolerability

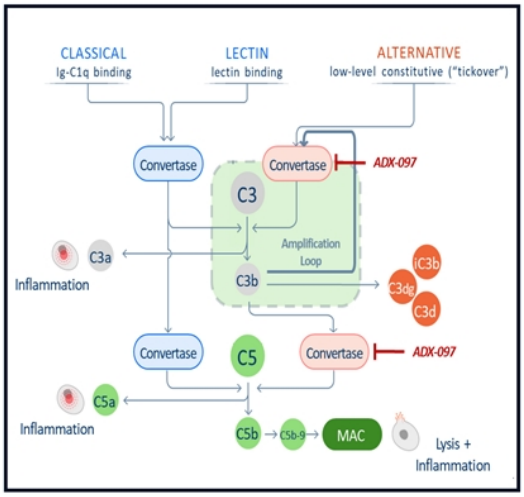
ADX-097 Design: C3d antibody – fH_{1-5}

Designed to be held at site of tissue complement activity allowing catalytic degradation of alternative pathway convertases



ADX-097: Fusion protein
Humanized anti-C3d mAb linked to two moieties of a negative regulatory protein (fH_{1-5})

Inactivation of alternative pathway convertases gains control of amplification loop and all 3 complement pathways



ADX-097 Preclinical and Ph1 Data: Robust Data Package Supports Desired PK and PD with Favorable Tolerability and Immunogenicity Profile

Preclinical Data

- Tissue distribution and target binding
- Durable (>7 days) tissue PK/PD after SC dosing
- Reduction in key proof of mechanism (POM)/proof of concept (POC) biomarkers including proteinuria and albuminuria
- >40X safety margin for planned Ph2 clinical dosing

Ph1 Clinical Data

- Favorable tolerability and good immunogenicity profile across all SAD/MAD doses
- Weekly SC dosing met desired exposures for predicted complete tissue inhibition (based on preclinical modeling) with no systemic inhibition
- Proximal POM supports in-vivo ADX-097 integrity

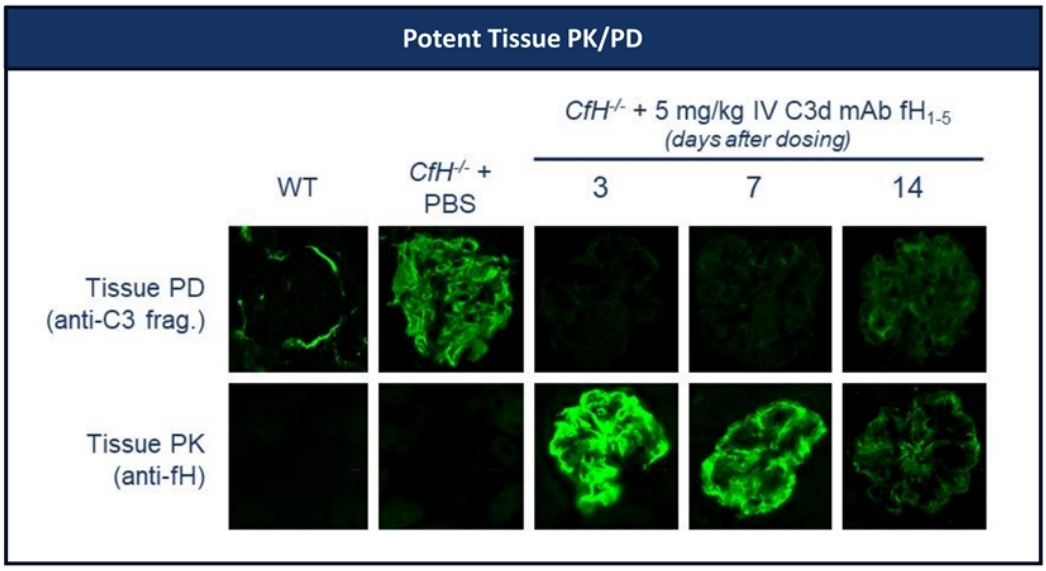
ADX-097 Preclinical Data: Supports POM, POC, PK/PD Dosing Model and Indication Rationale

Milestone[1]	Organ System	Species	Model
Target validation in human disease	✓ Kidney ✓ Skin ✓ Liver	✓ Human	IHC of human disease biopsies (multiple disease-types for kidney, skin & liver)
Biodistribution of drug to tissue	✓ Kidney ✓ Skin ✓ Liver	✓ Mouse ✓ Rat ✓ NHP	fH -/- mice, EBA mouse model, PHN rat model, NHP UVB
Proof of Mechanism (POM): Durable inhibition of complement in tissue, absent systemic blockade	✓ Kidney ✓ Skin ✓ Liver	✓ Mouse ✓ Rat ✓ NHP	fH -/- mice, EBA mouse model, PHN rat model, NHP UVB
Proof of Concept (POC): Targeted activity at low mg/kg SC administration	✓ Kidney	✓ Rat	PHN rat model

Drug levels of 0.3 - 3.2 ug/ml predicted to provide maximal tissue targeted complement inhibition and activity based on preclinical data

1. Not all milestones were assessed in every organ system in every species

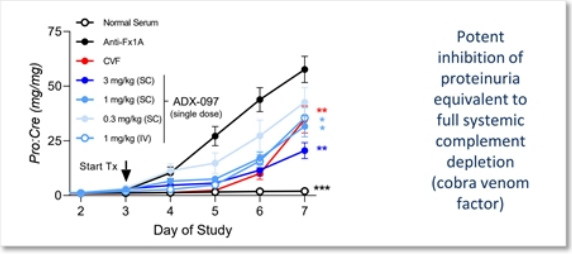
fH -/- Mouse Model of Human C3G with Uncontrolled Complement Activation: Showed Robust and Durable Tissue PK/PD in Absence of Circulating Inhibition of Complement



- ✓ **Robust tissue PK/PD and activity at doses of 1 – 3 mg/kg, SC or IV**
- ✓ **Tissue PD EC90 = circulating concentration of 0.3 ug/mL**
- ✓ **Long term, durable kidney PK/PD in absence of systemic complement inhibiting activity**
- ✓ **Supports dosing every 1 to 2 weeks**

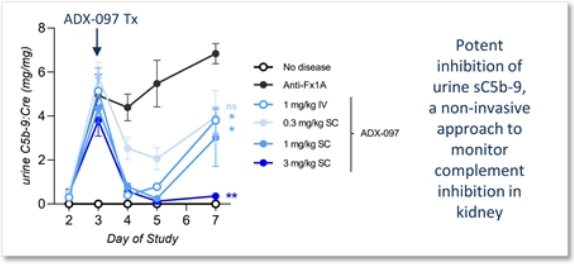
Passive Heymann Nephritis Rat Model of Human Membranous Nephropathy: Showed Robust Effect on POM and POC Endpoints

Proteinuria



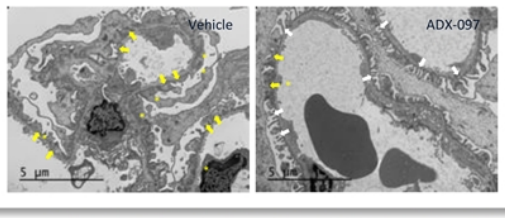
Potent inhibition of proteinuria equivalent to full systemic complement depletion (cobra venom factor)

Urine sC5b-9



Potent inhibition of urine sC5b-9, a non-invasive approach to monitor complement inhibition in kidney

Podocyte Structures



Podocyte Injury - Key driver of protein leakage in kidney disease

- ✓ **Robust tissue PK/PD and activity at doses of 1 – 3 mg/kg, SC or IV**
- ✓ **Tissue PD, urine sC5b-9 and proteinuria EC70-EC90 = circulating concentration of 0.3 ug/mL**
- ✓ **Protection of podocytes**

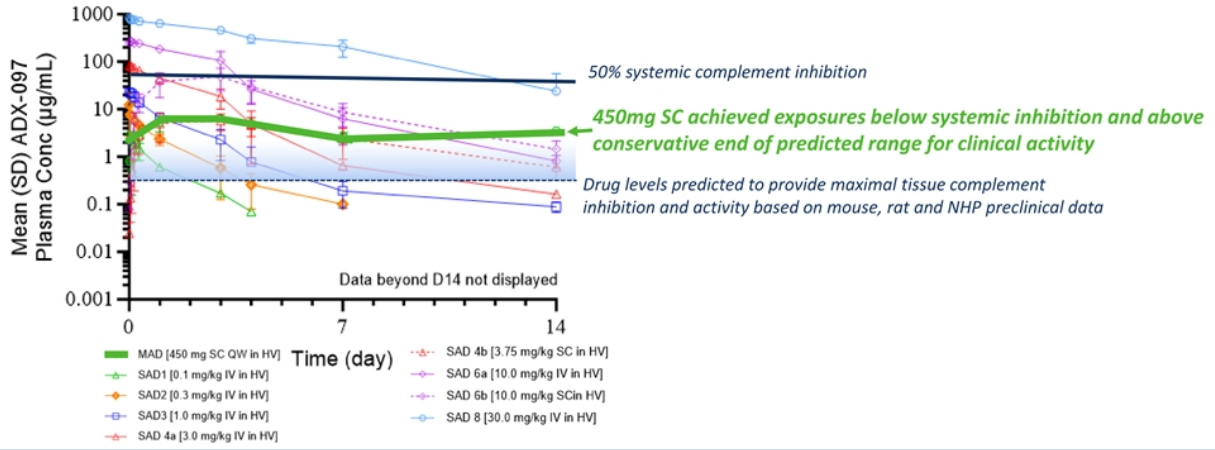
ADX-097-001 Phase 1 Study: Complete with Primary Goals Achieved

ADX-097-001 SAD/MAD (n= 56 Healthy Volunteers)
Explored Single Doses of 0.1 - 30 mg/kg IV and/or SC and 450 mg SC Multiple Dose Cohort (~6 mg/kg)

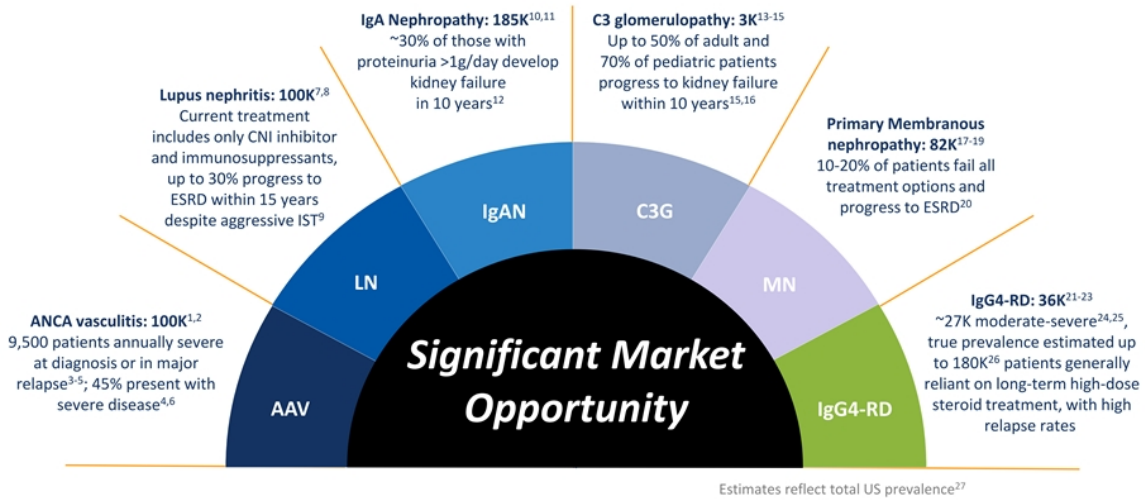
Primary Goals	Achieved	Results
Confirm planned Ph2 dose/route/schedule	✓	• Attained expected dose-dependent PK/PD • Once weekly SC dosing provided desired exposure for predicted complete tissue inhibition with no concomitant systemic inhibition
Evaluate proximal POM to establish *in-vivo* ADX-097 integrity	✓	• PK levels aligned with predicted Wieslab alternative pathway inhibition
Characterize safety profile	✓	• No serious or severe AEs or discontinuations due to AEs
Characterize immunogenicity risk	✓	• No AEs related to immunogenicity • Minimal anti-drug antibodies (ADA) detected across SAD/MAD; low level titers

ADX-097 Phase 1 PK Data: Weekly SC Dosing Met Desired Exposures for Predicted Complete Tissue Inhibition With No Concomitant Systemic Inhibition

Phase 2 Dose Identified: 450 mg SC Met Key Exposure Goals



ADX-097:
Significant Market Potential in Priority High Unmet Need Indications



1. Watts et al. Nat Rev Rheum 2022; 2. Estimated using U.S. and Norway incidence study results, and Norway prevalence study results as applied to U.S. population; 3. Berti et al. Arthritis Rheum 2017; 4. Q32 qualitative research; 5. Specks et al. N Engl J Med. 2013; 6. Severe disease patients are those with a high risk of progression to ESRD, among other factors; 7. Hoover et al. Kidney Int 2016; 8. Pryor et al. Rheum Dis Clin North Am. 2021; 9. Pryor et al. Rheum Dis Clin North Am. 2021; 10. Kwon et al. J Health Econ Outcomes Res. 2021; 11. Swaminathan et al. Clin J Am Soc Nephrol 2006; 12. Berthoux FC, et al. Semin Neph 2008; 13. Bomback et al. Kidney Int. 2018. 14. Smith et al. Natur Rev Nephrol. 2019; 15. Servais et al. Kidney Int 2012; 16. Smith RJH et al. J. Am. Soc. Neph 2007; 17. Ronco et al. Nat Rev Dis Primers 2021; 18. Swaminathan et al. Clin J Am Soc Nephrol 2006; 19. Hanko et al. Nephrol Dial Transplant 2009; 20. Couser et al. Clin J Am Soc Neph 2017; 21. Umehara et al. Mod Rheum 2012; 22. Uchida et al. Int J Rheum 2012; 23. Estimated using Japan prevalence study results as applied to U.S. population; 24. Brito-Zerón et al. Medicine 2016; 25. Moderate-severe patients are those who require pharmacological, primarily glucocorticoid treatment; 26. ACR clinical guidelines 2018; 27. Based on 2020 Census population

LN, IgAN, C3G Basket:
Designed to Provide Building Blocks for Renal Expansion

Renal Disease (LN, IgAN, C3G)	Design/Timeline
Lupus Nephritis (LN) **6-fold mortality risk** increase vs general population[1,2] Up to 30% develop **kidney failure** requiring dialysis or kidney transplant **within 15 years of diagnosis**[3,4] **IgA Nephropathy (IgAN)** **Up to 40%** develop ESRD w/in 20 years of diagnosis[5,6], and patients have **10 years** reduced life expectancy[7,8] **~70% not adequately controlled** w/supportive care[5,9] **C3 glomerulopathy (C3G)** **Up to 50% of adult, 70% of pediatric** patients progress to **kidney failure** within 10 years[10-13] **>70%** experience **recurring disease**; ~50% experience allograft loss w/in 10 years of kidney transplant[10,14-17]	**Basket design (n= up to 30), 24-week treatment** • Designed to assess safety, tissue pharmacology and magnitude/timing of treatment effect with focused dose-ranging • Open-label with interim data readouts • SC dosing with duration of treatment TBD (prior regulatory discussions support up to 24 weeks) • Key assessments: Drug localization and impact in tissue, biomarkers (including surrogate endpoint biomarkers proteinuria and eGFR) for assessment of ADX-097 activity • Anticipated to provide data for key regulatory discussions **Trial initiated; topline results expected in 2H'25, with initial open-label data by 1H'25**

1. Mahajan et al. Lupus 2020; 2. Cervera et al. Medicine 2002; 3. Maroz et al. Am J Med Sci 2013. 4. Ward et al. J Rheumatol 2009; 5. Habas et al. Medicine (Baltimore) 2022. 6. Berthoux et al. Semin Nephrol 2008; 7. Pitcher et al. Clin Jour of Amer Soc Neph 2023. 8. Hastings et al. Kidney Int Rep 2018; 9. Raun et al. N Engl J Med 2015; 10. Heiderscheit et al. Am J Med Genet C Semin Med Genet 2022. 11. Smith et al. J Am Soc Nephrol 2007; 12. Servais et al. Kidney Int 2012; 13. Rabasco et al. Kidney Int 2015; 14. Smith et al. Nat Rev Nephrol 2019. 15. Welte et al. BMC Nephrology 2018; 16. Salvadori et al. WJT 2016. 17. Regunathan-Shenk et al. AJKD 2019 18. Hoover et al. Kidney Int 2016; 19. Pryor et al. Rheum Dis Clin North Am. 2021; 20. Braun et al. Int Urol Nephrol 2011; 21. McQuarry et al. Kidney Int 2013; 22. Bomback et al. Kidney Int. 2018.

Q32 Bio Has Significant Potential to Unlock Near-term Value-creation

Runway through multiple Phase 2 clinical readouts and into mid-2026

Financial Overview

- Q3 cash balance of $89.1M, providing expected cash runway **to mid 2026**
- Approximately 12.1M shares outstanding

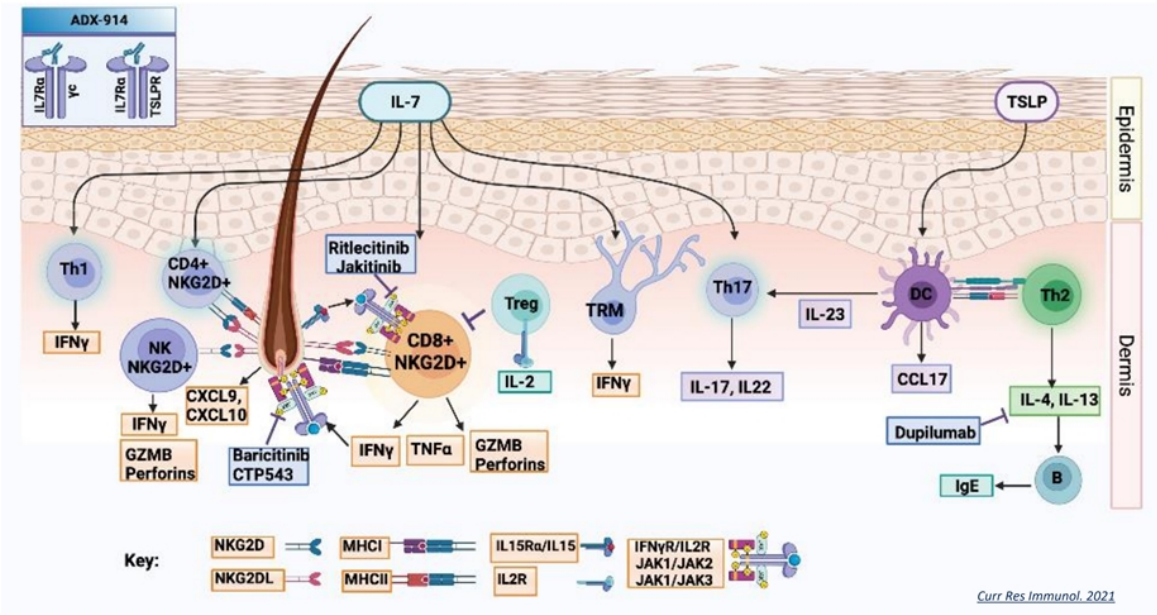
Numerous Anticipated Milestones in 2025

- **1H25:** Bempikibart AA Ph2 Part B initiation
- **1H25:** Renal basket Ph2 initial data
- **2H25:** Renal basket Ph2 topline results

APPENDIX

Bempikibart in AA: IL-7 Inhibition is Believed to Block CD8+ T cell-Driven Inflammation

Hair Follicle Immune Dysregulation in Alopecia



Curr Res Immunol. 2021

Bempikibart Phase 2 Clinical Trial in Atopic Dermatitis Topline Results
ADX-914-202 SIGNAL-AD

Part A

12-week treatment (n= 15 patients in Part A), 12-week follow-up

- **Part A Key Assessments**
  - Safety and PK
  - Evaluated two doses: 2 mg/kg and 3 mg/kg Q2W for dose selection in Part B and AA: 200mg SC (~2.7mg/kg) flat dose selected for Part
- **Part A Topline Results at Week 14[1]**
  - At 2 mg/kg Q2W, mean % change in EASI score from baseline was 58.0%; at 3 mg/kg Q2W, mean % change in EASI score from baseline was 83.9%
  - On a pooled basis, mean % change in EASI score from baseline was 72.3%
  - Mean % change in EASI score was 38.3% for placebo

Part B

12-week treatment (n= ~100 patients in B), 12-week follow-up

- **Part B Key assessments: 200mg SC Q2W vs placebo (1:1)**
  - Primary: Mean % change from baseline in EASI score at week 14
  - Key Secondaries: Time to EASI change, mean % change from baseline in SCORAD, proportion of patients achieving EASI thresholds, proportion of patients achieving specified vIGA-AD improvements
  - Proportion of patients achieving an AD-IGA of 0 or 1 with a ≥2 grade improvement
- **Part B Topline Results at Week 14[2]**
  - Patients treated with bempikibart showed a 74.4% mean % change in EASI from baseline, compared to 76.2% for placebo (p= NS)
  - Results of the primary endpoint were generally consistent when stratified for pre-specified baseline entry criteria
  - Results from analysis of key secondary endpoints were generally consistent with findings from the primary endpoint

1 Actual Percent Change from Baseline EASI (modified Full Analysis Set)

2 Least-Squares Mean Change as per pre-specified primary endpoint