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): May 11, 2026

MBX Biosciences, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-42272**	**84-1882872**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

11711 N. Meridian Street
Suite 300
Carmel, Indiana **46032**
(Address of Principal Executive Offices) **(Zip Code)**

Registrant's Telephone Number, Including Area Code: (317) 659-0200

Not Applicable
(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, $0.0001 par value per share	MBX	Nasdaq Global Select 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 May 11, 2026, MBX Biosciences, Inc. (the "Company") issued a press release (the "Press Release") titled “MBX Biosciences Provides Obesity Portfolio Update Including Initial Phase 1 Data for MBX 4291 Supporting Potential for Once-Monthly Dosing.” A copy of the Press Release is being furnished as Exhibit 99.1 to this Current Report on Form 8-K.

Also, on May 11, 2026 at 10:30 a.m. E.T., the Company will host an in-person and virtual Obesity Day to provide an update on its expanding obesity portfolio of products. A copy of the presentation from the event will be available in the "Investors" section of the Company's website at www.mbxbio.com and is furnished as Exhibit 99.2 to this Current Report on Form 8-K.

The information included under Item 7.01 of this Current Report on Form 8-K, including Exhibits 99.1 and 99.2 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, and shall not 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 May 11, 2026, the Company provided an update on its obesity portfolio, including initial data from the MBX 4291 Phase1 clinical trial and nomination of MBX 5765 as its amycretin prodrug development candidate, as well as an update on the imapextide Phase 2a clinical trial. The update is summarized below.

Patient Population and Market

According to the World Health Organization and World Obesity Federation, there are 890 million adults living with obesity and 160 million children living with obesity, while 2.5 billion adults worldwide are overweight and 390 million children and adolescents are overweight. Obesity rates have doubled since 1990 and 25% of the world's population is currently projected to have obesity by 2035.

The obesity drug market is projected to surpass $90 billion through 2031, which is being driven by investment in GLP-1+ next generation treatment and improved access and affordability allowing more patients to consider and utilize obesity medications, as well as rising obesity prevalence and increased awareness of obesity drugs.

Phase 1 Study Design and Current Status

The ongoing Phase 1, randomized, double-blind, placebo-controlled study is evaluating MBX 4291 in adults with obesity (BMI ≥30 kg/m2). The study includes three distinct parts: single ascending dose ("SAD Part A"), multiple ascending dose ("MAD Part B") and 12-week multiple ascending dose ("MAD Part C"). The overall Phase 1 program is designed to assess safety, tolerability, pharmacokinetics, pharmacodynamics and exploratory effects on body weight.

SAD Part A includes five dose cohorts ranging from 15 mg to 180 mg, with 8 subjects in each cohort randomized to active treatment (6) or placebo (2); four of the five planned SAD cohorts have been completed.

MAD Part B includes three cohorts evaluating a regimen of four weekly doses, potentially followed by a single monthly dose. There are 8 subjects in each cohort randomized to active treatment (6) or placebo (2), and the first cohort of Part B (30 mg qw x 4 + 120 mg) has been completed.

MAD Part C includes two cohorts, beginning with a regimen of four identical weekly doses followed by once-monthly dosing for a total of 12 weeks. There are 30 subjects in each cohort randomized to active treatment (20) or placebo (10).

The preliminary blinded data presented are from the first four cohorts of SAD Part A and the first cohort of MAD Part B. The trial will remain blinded until the Phase 1 study is completed.

SAD (Part A)

- Pharmacokinetics: MBX 4291 demonstrated dose-proportional pharmacokinetics (PK) across the four dose cohorts following a single administration: 15 mg, 60 mg, 90 mg and 180 mg. The 120 mg dose cohort is ongoing.

- Exposure profile: A slow accumulation and gradually increasing concentrations of active peptide were demonstrated, with a Tmax of approximately 13-14 days and sustained exposure, which is supportive of once-monthly dosing potential.

- Safety: MBX 4291 was generally well tolerated in the first three cohorts of the ongoing blinded study, with a clear

dose-dependent rate of predominantly mild gastrointestinal (GI)-related adverse events; the maximum tolerated dose (MTD) was reached with the 180 mg single dose.

MAD Cohort 1 (Part B)

- Pharmacokinetics: A titration regimen of four weekly 30 mg doses followed by a single 120 mg monthly administration resulted in gradual accumulation and sustained concentrations of active peptide. The T1/2Cmax was approximately 26 days, which is supportive of true once-monthly dosing.

- Weight loss: Preliminary blinded data demonstrated mean weight loss of 7% (range 0-16%) at eight weeks (n=8, including 2 placebo).

- Safety: MBX 4291 was generally well tolerated, with no serious adverse events. Only one subject experienced an event of diarrhea, nausea or vomiting through eight weeks; the subject experienced mild diarrhea following the first administration . There were no reported events of nausea or vomiting in the first MAD cohort.

12-Week MAD (Part C)

- Data from the 12-week MAD Part C cohort remain on track for Q4 2026.

Expanding Obesity Pipeline

- Amycretin candidate: MBX announced the nomination of MBX 5765 as its lead amycretin prodrug candidate. Enabled by the Company's clinically validated PEPTM platform, MBX 5765 combines GLP-1, GIP, glucagon (GCG) and dual amylin and calcitonin receptor agonists (DACRA) activity in a single construct. The differentiated mechanism of MBX 5765 is designed for once-monthly dosing, superior efficacy and improved tolerability. IND-enabling studies for MBX 5765 are expected to begin in Q2 2026.

- Triple-agonist candidate: The Company is on track to nominate its GLP-1/GIP/GCG receptor prodrug candidate in Q3 2026, further expanding its obesity pipeline to potentially address the full spectrum of patient needs.

POC Achieved for Imapextide in PBH

MBX also announced that once-weekly imapextide achieved proof of concept (POC) in PBH. Preliminary results from the Phase 2a STEADI™ trial demonstrated average increases from baseline in glucose nadir of 17% (45 mg), 28% (100 mg), and 34% (200 mg), as well as average decreases from baseline in insulin peak of 11% (45 mg), 33% (100 mg), and 45% (200 mg). Given the Company's growing number of novel peptide-based drug candidates, including the most advanced candidate, canvuparatide for the treatment of hypoparathyroidism, and its expanding obesity pipeline, the Company will not be committing further investment toward a Phase 2b clinical trial of imapextide in PBH.

Forward-Looking Statements

This Current Report on Form 8-K contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, each as amended. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, but are not limited to, express or implied statements regarding: MBX Biosciences' expectations regarding the further advancement of its pipeline of programs in endocrine and metabolic disorders, including timing of results of the 12-week MAD portion of the Phase 1 trial for MBX 4291 in Q4 2026, the initiation of IND-enabling studies for MBX 5765 in Q2 2026 and nomination of the Company's GLP-1/GIP/glucagon receptor (GCGR) prodrug candidate in Q3 2026; statements regarding the potential of MBX Biosciences' delivery of differentiated endocrine and metabolic compounds; the potential for canvuparatide to be a once-weekly PTH replacement therapy; the expected timing of the additional Phase 1 readout for MBX 4291 and candidate nominations; the potential for MBX Biosciences to develop therapies for obesity dosed once monthly; and the ability of MBX 4291 to be a treatment of obesity and have a compelling tolerability profile.

Forward-looking statements are based on management's current expectations and are subject to risks and uncertainties that could negatively affect MBX Biosciences' business, operating results, financial condition and stock value. Factors that could cause actual results to differ materially from those currently anticipated include: risks relating to the Company's research and development

activities; MBX Biosciences' ability to execute on its strategy including obtaining the requisite regulatory approvals on the expected timeline, if at all; uncertainties relating to preclinical and clinical development activities, including the risk for differences between interim data and final data from the Company's ongoing clinical trials; the Company's dependence on third parties to conduct clinical trials, manufacture its product candidates and develop and commercialize its product candidates, if approved; MBX Biosciences' ability to attract, integrate and retain key personnel; risks related to the Company's financial condition and need for substantial additional funds in order to complete development activities and commercialize a product candidate, if approved; risks related to regulatory developments and approval processes of the U.S. Food and Drug Administration and comparable foreign regulatory authorities; risks related to establishing and maintaining MBX Biosciences' intellectual property protections; and risks related to the competitive landscape for MBX Biosciences' product candidates; as well as other risks described in "Risk Factors," in MBX Biosciences' Annual Report on Form 10-K for the year ended December 31, 2025, Quarterly Report on Form 10-Q for the three months ended March 31, 2026, as well as subsequent filings filed with the Securities and Exchange Commission (SEC). MBX Biosciences expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in its expectations or any changes in events, conditions or circumstances on which any such statement is based, except as required by law, and claims the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Press Release Issued by MBX Biosciences, Inc. on May 11, 2026.
99.2	Corporate presentation of MBX Biosciences, Inc.
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.

MBX BIOSCIENCES, INC.

Date: May 11, 2026

By: /s/ P. Kent Hawryluk
President and Chief Executive Officer (Principal Executive Officer)

MBX Biosciences Provides Obesity Portfolio Update Including Initial Phase 1 Data for MBX 4291 Supporting Potential for Once-Monthly Dosing

Preliminary blinded data from ongoing Phase 1 trial demonstrated mean weight loss of 7% (range 0-16%) at 8 weeks in first MAD Part B cohort (n=8, including 2 placebo)

MBX 4291 generally well tolerated, only one event of diarrhea, nausea or vomiting through 8 weeks in first MAD Part B cohort

MBX 4291 12-week Phase 1 MAD Part C data remain on track for Q4 2026

MBX 5765 nominated as amycretin prodrug development candidate, a novel GLP-1 / GIP / glucagon / DACRA agonist designed for once-monthly dosing, superior efficacy and improved tolerability

Imapextide Phase 2a STEADI™ trial results demonstrate positive proof of concept in post-bariatric hypoglycemia (PBH)

Company to host in-person and virtual Obesity Day today at 10:30 a.m. ET

CARMEL, Ind., May 11, 2026 (GLOBE NEWSWIRE) – MBX Biosciences, Inc. (Nasdaq: MBX), a clinical-stage biopharmaceutical company focused on the discovery, development and commercialization of novel precision peptide therapies for the treatment of endocrine and metabolic disorders, today announced multiple updates on its obesity portfolio. Preliminary blinded Phase 1 data for MBX 4291, a GLP-1/GIP co-agonist prodrug for obesity, demonstrate a pharmacokinetic profile supporting the potential for once-monthly dosing and competitive weight loss in the first multiple ascending dose (MAD) cohort. These results, along with additional pipeline updates, will be discussed at the Company's Obesity Day presentation today at 10:30 a.m. ET.

"We are proud to share preliminary blinded data from the ongoing Phase 1 clinical trial of our GLP-1/GIP co-agonist prodrug in obesity," said Sam Azoulay, MD, Chief Medical Officer of MBX Biosciences. "The unique pharmacokinetic profile of MBX 4291 has the potential to support a self-titrating weekly induction regimen and the potential for true once-monthly dosing. Moreover, preliminary blinded data from the first MAD cohort following four weekly titration doses and a single once-monthly dose demonstrated gradual accumulation of active peptide, leading to competitive weight loss and tolerability after eight weeks. These results will inform the upcoming 12-week MAD portion of our Phase 1 trial, and we remain on track to share data from the MAD Part C in Q4."

"These initial MBX 4291 clinical data illustrate the potential of our PEP™ platform to create

differentiated, long-acting and more tolerable peptide therapies for patients with endocrine and metabolic disorders," said Kent Hawryluk, President and Chief Executive Officer of MBX Biosciences. "Building on this platform, we are pleased to introduce MBX 5765, our novel GLP-1 / GIP / glucagon / DACRA agonist designed for once-monthly dosing, superior efficacy and improved tolerability, as our next obesity development candidate. Given our growing number of novel peptide-based drug candidates, including our most advanced candidate, canvuparatide for the treatment of hypoparathyroidism, and our expanding obesity pipeline, we will not be committing further investment toward a Phase 2b trial of imapextide in PBH. We believe prioritizing our resources and capital allocation represents the strongest opportunity to deliver long-term value and help people with endocrine and metabolic disorders live fuller, healthier lives."

MBX 4291 Initial Phase 1 Data Summary

MBX 4291 is a dual GLP-1/GIP receptor agonist peptide prodrug specifically engineered using the Precision Endocrine Peptide (PEP^{TM}) platform for a more gradual release of active peptide and extended exposure. The gradual release, with a delayed time to maximum concentration (T_{max}), is designed to enable a smooth, self-titrating pharmacokinetic (PK) profile utilizing once-weekly administration of starting doses during the titration phase to optimize tolerability. The extended duration of exposure has the potential to enable true once-monthly administration. Based on data from the first MAD Part B cohort, the combination of gradual release and extended duration of exposure has the potential to shorten the titration phase and achieve sustained accumulation of active peptide while still improving tolerability compared to currently approved incretin therapies.

Phase 1 Study Design and Current Status

The ongoing Phase 1, randomized, double-blind, placebo-controlled study is evaluating MBX 4291 in adults with obesity (BMI ≥30 kg/m^2). The study includes three distinct parts: single ascending dose (SAD; Part A), MAD Part B, and 12-week MAD Part C. The overall Phase 1 program is designed to assess safety, tolerability, pharmacokinetics and exploratory effects on body weight.

SAD Part A includes five dose cohorts ranging from 15 mg to 180 mg, with 8 subjects in each cohort randomized to active treatment (6) or placebo (2); four of the five planned SAD cohorts have been completed.

MAD Part B includes three cohorts evaluating a regimen of four weekly doses, potentially followed by a single monthly dose. There are 8 subjects in each cohort randomized to active treatment (6) or placebo (2), and the first cohort of Part B (30 mg qw x 4 + 120 mg) has been completed.

MAD Part C includes two cohorts, beginning with a regimen of four identical weekly doses followed by once-monthly dosing for a total of 12 weeks. There are 30 subjects in each cohort randomized to active treatment (20) or placebo (10).

The preliminary blinded data presented today are from the first four cohorts of SAD Part A and the first cohort of MAD Part B. The trial will remain blinded until the Phase 1 study is completed.

SAD (Part A)

- **Pharmacokinetics:** MBX 4291 demonstrated dose-proportional PK across the four dose cohorts following a single administration: 15 mg, 60 mg, 90 mg and 180 mg. The 120 mg dose cohort is ongoing.
- **Exposure profile:** A slow accumulation and gradually increasing concentrations of active peptide were demonstrated, with a T_{max} of approximately 13-14 days and sustained exposure which is supportive of once-monthly dosing potential.
- **Safety:** MBX 4291 was generally well tolerated in the first three cohorts of the ongoing blinded study, with a clear dose-dependent rate of predominantly mild gastrointestinal-related adverse events; the maximum tolerated dose (MTD) was reached with the 180 mg single dose.

MAD Cohort 1 (Part B)

- **Pharmacokinetics**: A titration regimen of four weekly 30 mg doses followed by a single 120 mg monthly administration resulted in gradual accumulation and sustained concentrations of active peptide. The $T_{1/2Cmax}$[1] was approximately 26 days, which is supportive of true once-monthly dosing.
- **Weight loss:** Preliminary blinded data demonstrated mean weight loss of 7% (range 0-16%) at eight weeks (n=8, including 2 placebo).
- **Safety:** MBX 4291 was generally well tolerated with no serious adverse events. Only one subject experienced an event of diarrhea, nausea or vomiting through eight weeks; the subject experienced mild diarrhea following the first administration. There were no reported events of nausea or vomiting in the first MAD cohort.

12-Week MAD (Part C)

- Data from the 12-week MAD Part C cohort remain on track for Q4 2026.

Expanding Obesity Pipeline

- **Amycretin candidate**: MBX announced the nomination of MBX 5765 as its lead amycretin prodrug candidate. Enabled by the Company's clinically validated PEP™ platform, MBX 5765 combines GLP-1, GIP, glucagon (GCG), and dual amylin and calcitonin receptor agonist (DACRA) activity in a single construct. The differentiated mechanism of MBX 5765 is designed for once-monthly dosing, superior efficacy and improved tolerability. IND-enabling studies for MBX 5765 are expected to begin in Q2 2026.
- **Triple agonist candidate**: The Company is on track to nominate its GLP-1/GIP/GCG receptor prodrug candidate in Q3 2026, further expanding its obesity pipeline to potentially address the full spectrum of patient needs.

POC Achieved for Imapextide in PBH

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[1] $T_{1/2Cmax}$ is calculated as the time required for drug concentrations to fall to 50% of the maximum concentration (C_{max}) and informs the dosing interval.

- MBX also announced that once-weekly imapextide achieved proof of concept (POC) in PBH. Preliminary results from the Phase 2a STEADI™ trial demonstrated average increases from baseline in glucose nadir of 17% (45 mg), 28% (100 mg), and 34% (200 mg), as well as average decreases from baseline in insulin peak of 11% (45 mg), 33% (100 mg), and 45% (200 mg).

Obesity Day Webcast

MBX Biosciences is hosting Obesity Day today, May 11, 2026, at 10:30 a.m. ET. The live webcast can be accessed in the Events section of the MBX Biosciences website at https://investors.mbxbio.com/news-events/events. A replay of the webcast will be archived on the Company's website for approximately 90 days. A copy of the data presentation from the May 11 Obesity Day event can be found at https://investors.mbxbio.com/news-events/presentations.

About MBX Biosciences

MBX Biosciences is a biopharmaceutical company focused on the discovery, development and commercialization of novel precision peptide therapies based on its proprietary PEP™ platform, for the treatment of endocrine and metabolic disorders. The Company is advancing a pipeline of novel candidates for endocrine and metabolic disorders with clinically validated targets, established endpoints for regulatory approval, significant unmet medical needs and large potential market opportunities. The Company's pipeline includes canvuparatide (MBX 2109) for the treatment of chronic hypoparathyroidism preparing for Phase 3 development; and an obesity portfolio that includes MBX 4291 in Phase 1 development and MBX 5765 in preclinical development, as well as additional discovery candidates. The Company is based in Carmel, Indiana and Burlington, Massachusetts. To learn more, please visit the Company website at www.mbxbio.com and follow it on LinkedIn.

About MBX's Proprietary Precision Endocrine Peptide (PEP™) Platform

MBX was founded by global leaders with a transformative approach to peptide drug design and development. Leveraging this expertise, the Company designed its proprietary Precision Endocrine Peptide™ (PEP™) platform to overcome the key limitations of unmodified and modified peptide therapies and to improve clinical outcomes and simplify disease management for patients. PEPs are selectively engineered to have optimized pharmaceutical properties, including extended time-action profiles and consistent drug concentrations with low peak-to-trough concentration ratios, consistent exposure to target tissues, and less frequent dosing.

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, each as amended. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, but are not limited to, express or implied statements regarding: MBX Biosciences' expectations regarding the further advancement of its pipeline of programs in endocrine and metabolic disorders, including timing of results of the 12-week MAD portion of the Phase 1 trial for MBX 4291 in Q4 2026, the

initiation of IND-enabling studies for MBX 5765 in Q2 2026 and nomination of the Company's GLP-1/GIP/glucagon receptor (GCGR) prodrug candidate in Q3 2026; statements regarding the potential of MBX Biosciences' delivery of differentiated endocrine and metabolic compounds; the potential for canvuparatide to be a once-weekly PTH replacement therapy; the expected timing of the additional Phase 1 readout for MBX 4291 and candidate nominations; the potential for MBX Biosciences to develop therapies for obesity dosed once monthly; and the ability of MBX 4291 to be a treatment of obesity and have a compelling tolerability profile.

Forward-looking statements are based on management's current expectations and are subject to risks and uncertainties that could negatively affect MBX Biosciences' business, operating results, financial condition and stock value. Factors that could cause actual results to differ materially from those currently anticipated include: risks relating to the Company's research and development activities; MBX Biosciences' ability to execute on its strategy including obtaining the requisite regulatory approvals on the expected timeline, if at all; uncertainties relating to preclinical and clinical development activities, including the risk for differences between interim data and final data from the Company's ongoing clinical trials; the Company's dependence on third parties to conduct clinical trials, manufacture its product candidates and develop and commercialize its product candidates, if approved; MBX Biosciences' ability to attract, integrate and retain key personnel; risks related to the Company's financial condition and need for substantial additional funds in order to complete development activities and commercialize a product candidate, if approved; risks related to regulatory developments and approval processes of the U.S. Food and Drug Administration and comparable foreign regulatory authorities; risks related to establishing and maintaining MBX Biosciences' intellectual property protections; and risks related to the competitive landscape for MBX Biosciences' product candidates; as well as other risks described in "Risk Factors," in MBX Biosciences' Annual Report on Form 10-K for the year ended December 31, 2025, Quarterly Report on Form 10-Q for the three months ended March 31, 2026, as well as subsequent filings filed with the Securities and Exchange Commission (SEC). MBX Biosciences expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in its expectations or any changes in events, conditions or circumstances on which any such statement is based, except as required by law, and claims the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

MBX Biosciences uses and intends to continue to use its Investor Relations website as a means of disclosing material nonpublic information and for complying with its disclosure obligations under Regulation FD. Accordingly, investors should monitor the Company's Investor Relations website, in addition to following the Company's press releases, SEC filings, public conference calls, presentations, and webcasts.

Media Contact:

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EXHIBIT 99.2

May 11, 2026

Pioneering Precision Peptides for Endocrine and Metabolic Diseases

Obesity Day

MBX Biosciences

Introduction

Kent Hawryluk

President & CEO

MBX Biosciences

MBX Obesity Day 2026 Agenda

1
Welcome/Introductions
Kent Hawryluk, MBX President & CEO

2
Market Landscape & Opportunity
Katherine H. Saunders, M.D., Co-Founder, FlyteHealth; Faculty, Weill Cornell Medicine

3
MBX PEP™ Platform Overview
Richard DiMarchi, Ph.D., Distinguished Professor of Chemistry at Indiana University, MBX Co-founder

4
MBX 4291 Initial Phase 1 Data
Sam Azoulay, M.D., MBX Chief Medical Officer

5
Amycretin Candidate Nomination
Richard DiMarchi

6
Imapextide Phase 2a Results
Kent Hawryluk

7
Priorities/Conclusion
Kent Hawryluk

8
Q&A/Lunch
All

Disclaimer

This presentation includes forward looking statements. All statements other than statements of historical facts contained in this presentation, including statements regarding our product candidates, preclinical study and/or clinical trial timelines, including projected data announcements, future results of operations and financial position, strategy and plans, industry environment, potential growth opportunities, and our expectations for future operations, are forward looking statements The words " believe," " may," "will," " estimate," " continue," " anticipate," " design," " " expect," " could," " plan," " potential," " predict," " seek," " should," "would," or the negative version of these words and similar expressions are intended to identify forward looking statements.

We have based these forward-looking statements on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, strategy, short- and long-term business operations and objectives, and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including but not limited to, our ability to develop and advance our programs and product candidates, our regulatory approvals and filings, and other risks, uncertainties and assumptions identified in our filings with the Securities and Exchange Commission.

Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time, and it is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. You should not rely upon forward looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this presentation to conform these statements to actual results or to changes in our expectations, unless required by law.

This presentation contains estimates and other information concerning our industry, our business and the markets for our product candidates. Information that is based on estimates, market research or similar methodologies, including prevalence studies which are extrapolated to broader populations, is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from our own internal estimates and research as well as from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable.

Although we believe the industry and market data to be reliable as of the date of this presentation, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. While we are responsible for the accuracy of such information and believe our internal company research as to such matters is reliable and the market definitions are appropriate, neither such research nor these definitions have been verified by any independent source.

MBX Biosciences

MBX: Pioneering Precision Peptides for Endocrine and Metabolic Diseases

Multiple clinical-stage programs, each designed for differentiation in **multibillion dollar markets**

- Extended duration of action
- Consistent drug exposures
- Less frequent dosing
- Unique PK profile to simplify titration regimens

Once-weekly canvuparatide data support potential **best-in-class profile** in chronic hypoparathyroidism

- Results from Phase 2 trial accepted for oral presentation at ENDO in June 2026
- Phase 3 trial on track to initiate in Q3

Obesity pipeline designed for **once-monthly administration**, fewer titration steps and improved tolerability

- MBX 4291 PK shows potential for true once-monthly dosing
- 12-week Phase 1 MAD results on track for Q4
- MBX 5765 (amycretin) in IND-enabling studies
- Nomination of triple agonist on track for Q3

Clinically validated PEP platform unlocks vast potential of peptide therapeutics

Catalyst-rich 2026 with substantial value inflection opportunities

Well capitalized with $440 million in cash, expected to provide **runway into 2029**[1]

[1] Unaudited cash, cash equivalents and marketable securities as of March 31, 2026

MBX Biosciences

Obesity Market Landscape

Katherine H. Saunders, M.D.
Co-Founder, FlyteHealth
Faculty, Weill Cornell Medicine

MBX Biosciences

Worldwide Obesity Prevalence

According to World Health Organization and World Obesity Federation

1 in 8 people worldwide are living with obesity

2.5 billion adults worldwide overweight

890 million adults living with obesity

35 million children less than 5yrs are overweight

390 million children and adolescents overweight

160 million children living with obesity

Obesity rates have doubled since 1990

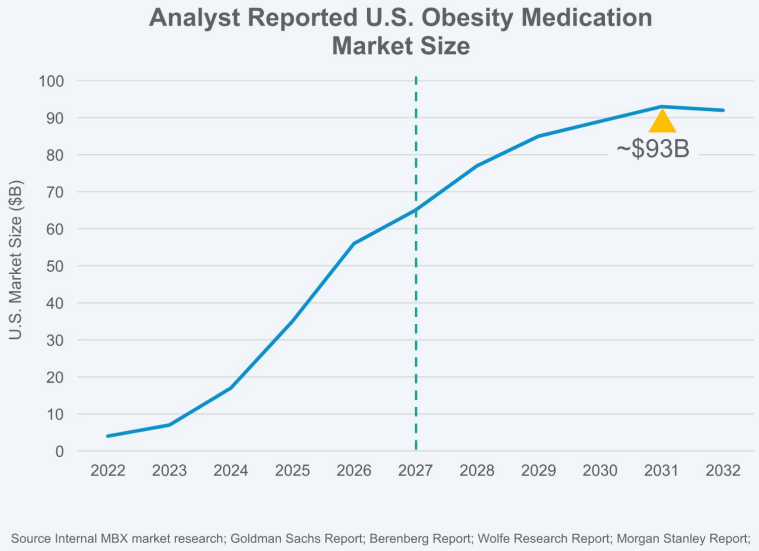
25% of the World's Population is projected to have obesity by 2035

https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight
https://www.worldobesity.org/about/about-obesity/prevalence-of-obesity
Ahmed SK, Mohammed RA. Obesity: Prevalence, causes, consequences, management, preventive strategies and future research directions. Metabol Open. 2025 Jun 14;27:100375.

MBX Biosciences

Obesity Market Projected to Surpass $90B Through 2031

Driven by novel GLP-1+ combos and broader access



Source Internal MBX market research; Goldman Sachs Report; Berenberg Report; Wolfe Research Report; Morgan Stanley Report;

Drivers of Growth

- Investment in GLP-1+ next-gen treatment with improved efficacy/safety profiles and oral route of administration may drive uptake and improve adherence and persistence
- Improved access and affordability are expected to allow more patients to consider and utilize obesity medications
  - Expansion into Medicare population unlocks further upside
- Rising obesity prevalence and increased awareness of obesity drugs may increase the addressable population

Obesity Market Growth Driven by Population with BMI >30

Estimated overweight and population with obesity over time[1] (U.S. adults, non-T2D)

		2025	2030	2035	2040
BMI 27-30 (≥1 comorbid.)	Prevalence	24 M	24 M	25 M	25 M
	CAGR	+0.3%			
BMI 30-35	Prevalence	49 M	54 M	57 M	60 M
	CAGR	+2.0%		+1.0%	
BMI 35+	Prevalence	40 M	46 M	51 M	56 M
	CAGR	+3.0%		+2.0%	

Obesity prevalence is expected to continue to grow, **with growth rates highest in the population with BMI 35+**

Estimates indicate **~40% of the U.S. adult population will have obesity (BMI>30) without type 2 diabetes by 2030**, with nearly half of the population with obesity expected to have class II obesity (BMI>35)

Source. Internal MBX market research. 1. Based on U.S. adult population, prevalence rates of BMI segments, prevalence of diabetes, and prevalence of weight-related comorbidities. 2. NCHS tracks population-level data and demographics CBO: Congressional Budget Office; NCHS: National Center for Health Statistics. Source CBO; Emmerich. NCHS Data Brief. 2024; Finkelstein. AJPM. 2012; Koliaki. Curr Obes Rep. 2023; Ogden. MMWR Morb Mortal Wkly Rep. 2017; Okunrintemi. J Gen Intern Med. 2019; Medhi. Cure. 2021; Mylona. Medicine (Baltimore). 2020; Pressman. Am J Manag Care. 2023; Sturm. Int J Obese (Lond). 2013; Ward. N Engl J Med. 2019; Cens.gov

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Unmet Needs Suggest Potential for Future Differentiation

1 Response

Clinical data show weight loss plateau at ~20% at ~1 year, which may be insufficient for patients with class III obesity (BMI>40)

2 Prevention of Weight Regain

Real-world studies indicate that patients discontinuing GLP-1 therapies are prone to rapid weight regain, highlighting a need for weight strategies

3 Tolerability

Improved tolerability may enhance adherence, expand long-term use, and decrease discontinuations in real world settings

4 Convenience

Less frequent and flexible dosing, simplified regimens and oral formulations can support long-term management and improve patient persistence

5 Weight Loss Quality

Preserving muscle while reducing fat is still a key unmet need for improving health outcomes

6 Outcomes

Developing treatments with proven benefits and safety in subpopulations (e.g., pediatric, comorbid, elderly) can improve health beyond weight loss and facilitate in enabling access to AOMs

Source: Internal MBX market research.
AOM: Anti-obesity Medication; ROA: Route of Administration. Source: Abdel-Bary. Obes Med. 2025; Aronne. JAMA. 2023; Wilding. Diabetes Obes Metab. 2022; Clearview Analysis

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Gastrointestinal Adverse Events Remain a Key Limitation of Incretin-Based Therapies

What we see clinically

- GI-related tolerability is a well-known on-target side effect of incretin therapies (e.g., semaglutide, tirzepatide)
- Nausea, vomiting, diarrhea are most frequent (25-44% in Phase 3 trials)
- Requires lengthy titration regimen to allow adaptation before getting to optimal efficacious dose
- Events often emerge during initiation and dose escalation
- Mechanism linked to gastric emptying/GI motility

Why it matters

- Symptoms are often mild, but can be persistent
- Repeated GI events may impact adherence
- Key driver of treatment discontinuation
- Requires lengthy and gradual titration to improve tolerability
- May impact reaching optimal therapeutic dose

Optimizing exposure may improve tolerability and decrease amount of required titration steps

Source: Ismaiel, A., et al. *Int J Obes* 2025 Oct;49(10):1946-1957; Jastreboff AM, et al. *N Engl J Med.* 2022;387:205–216; Wilding JPH, et al. *N Engl J Med.* 2021;384:989–1002.

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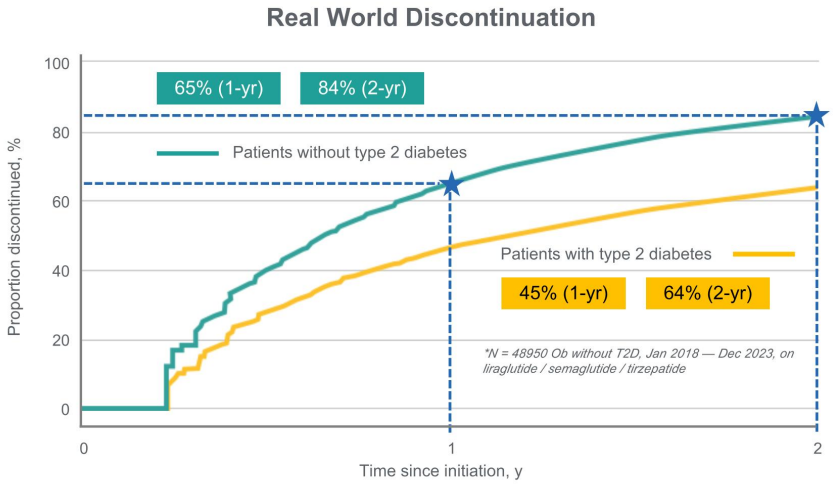
High Discontinuation Rates Underscore Need for Improved Tolerability



Source: Market research data conducted by ClearView on behalf of MBX

Significant proportion of patients discontinue within 1-2 years of treatment, implying greater need for **tolerable treatments** given rapid rebound of weight gain following discontinuation

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MBX Proprietary PEP™ Platform

Richard DiMarchi, PhD

MBX Scientific Co-Founder

Distinguished Professor of Chemistry and Gill Chair in Biomolecular Sciences at Indiana University

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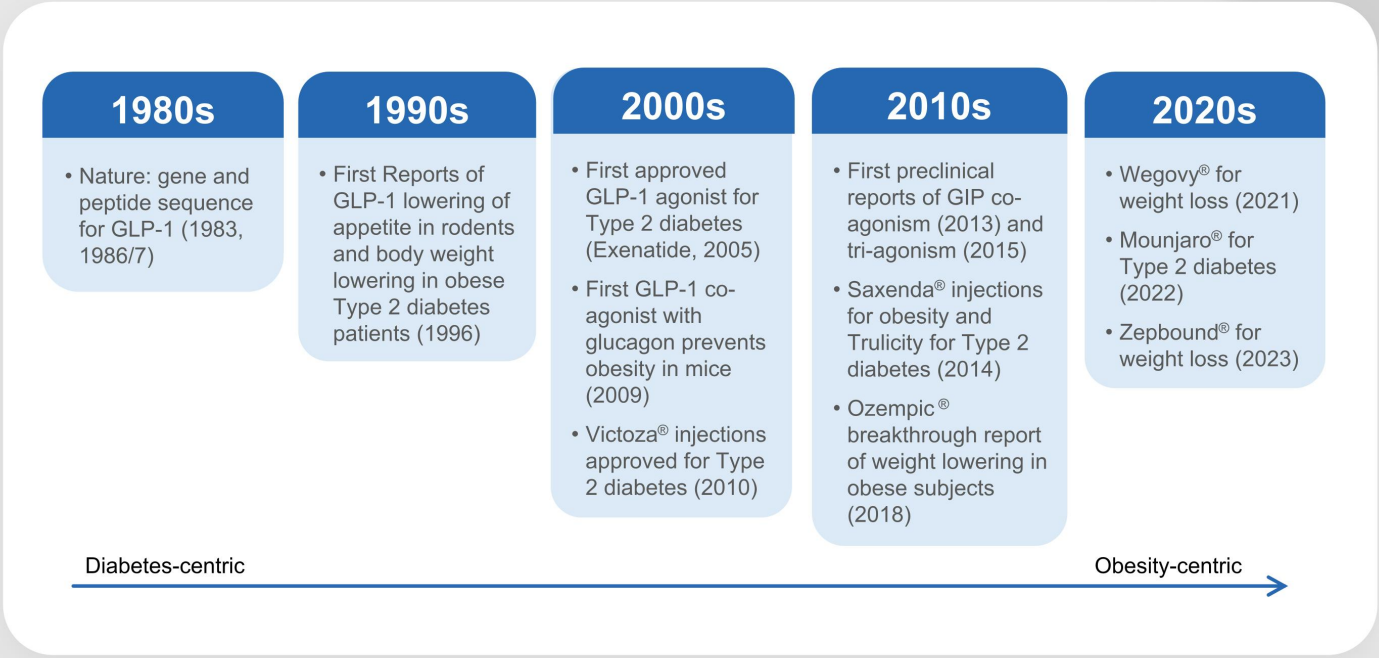
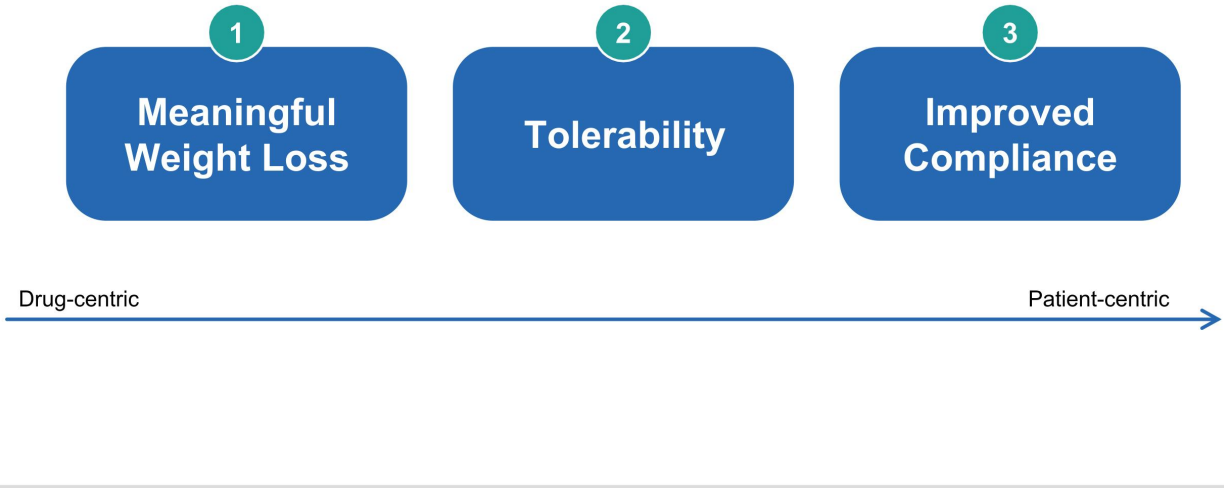
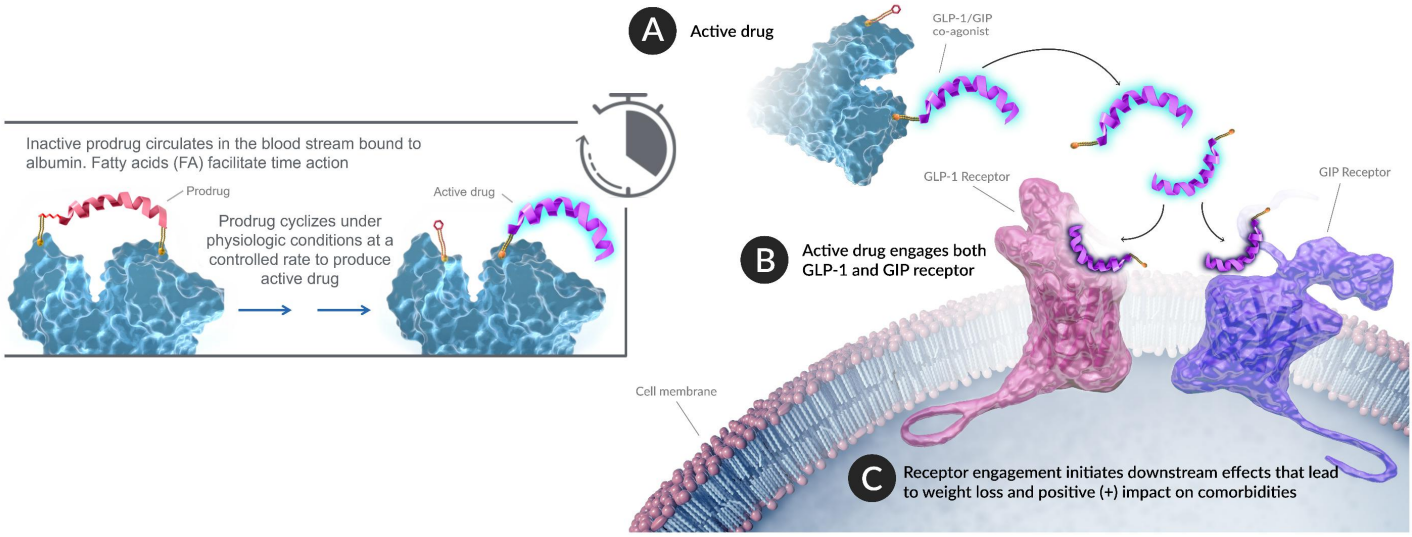
Obesity: How We Got Here



Obesity: Next Generation Performance



MBX 4291: Engineered for Gradual Release, Long Exposure and Dual GLP-1/GIP Agonism



Sam Azoulay, MD

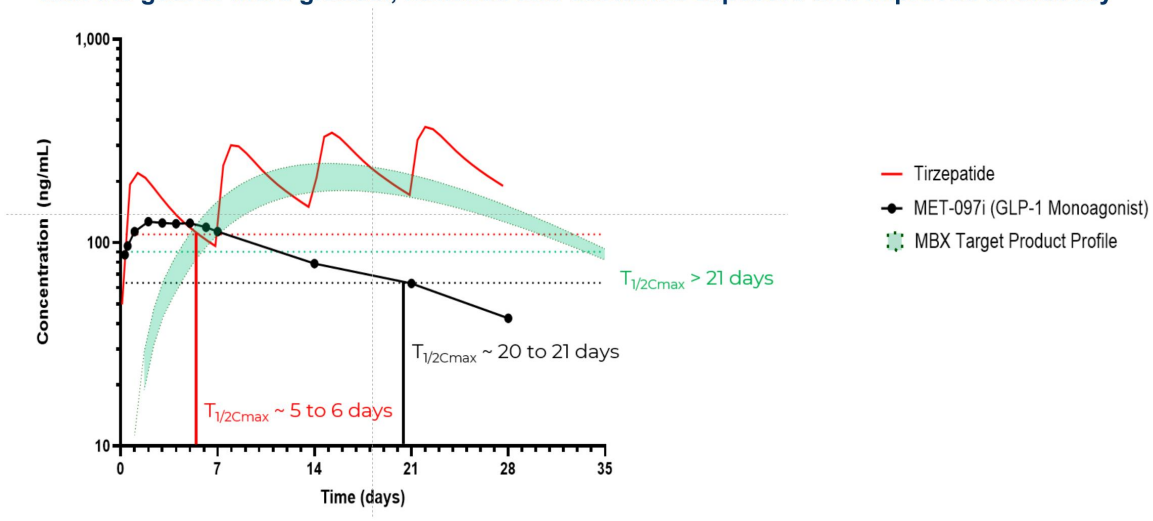
MBX Chief Medical Officer

MBX 4291

GLP-1/GIP Agonist

Obesity Opportunity: Once-Monthly Dosing with Improved Tolerability

MBX obesity candidates are designed using proprietary PEP platform for once-monthly dosing with the goal of more gradual, flattened and sustained exposure and improved tolerability



Source for tirzepatide concentrations: CPT Pharmacometrics Syst Pharmacol. 2024 Mar;13(3):494-503. Tirzepatide is the active ingredient in Zepbound.
Source for MET-0971i concentrations: Metsera, Inc. estimated from graphics presented in Form S-1, filed January 10, 2025.
$T_{1/2Cmax}$ calculated as time to 50% of Cmax. This figure represents different studies conducted at different points in time in different patients, and it is not intended to provide a head-to-head comparison.
Tirzepatide simulated for a mean BW of 88 kg; MBX 4291 active simulated for a range of 70 to 100 kg.

MBX 4291 Ongoing Phase 1 Clinical Trial

	SAD (Part A)	MAD (Part B)	MAD (Part C)
Participants	BMI ≥ 30		
Design	N=40	N=24	N=60
	5 Cohorts	3 Cohorts	2 Cohorts[1]
	X	X	X
MBX 4291	N=6	N=6	N=20
Placebo	N=2	N=2	N=10
	Single dose (15 mg to 180 mg)	4 weekly doses followed by a single monthly dose	4 weekly doses followed by once monthly dosing for a total of 12 weeks

Study Objectives

Primary:

- Assess safety and tolerability focusing on competitive gastrointestinal tolerability and streamlined dose titration

Secondary:

- Determine pharmacokinetics suitable for monthly injection schedule
- Evaluate pharmacodynamics (i.e., through assessment of weight loss)
- Identify doses and titration regimen for Phase 2

[1] Planned second cohort added to evaluate additional doses/dosing regimens

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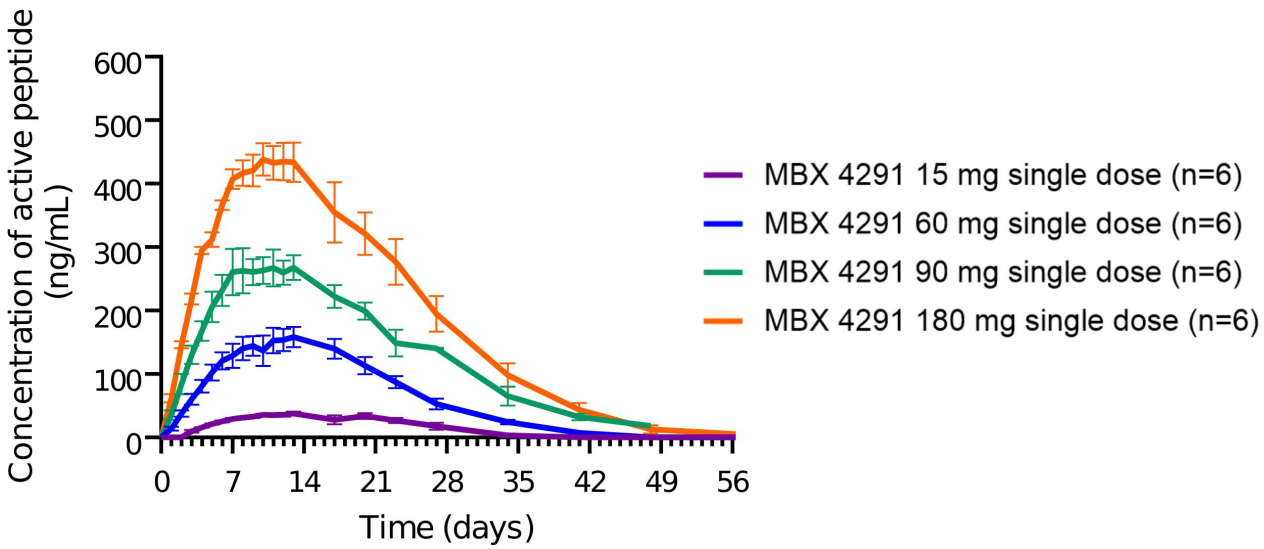
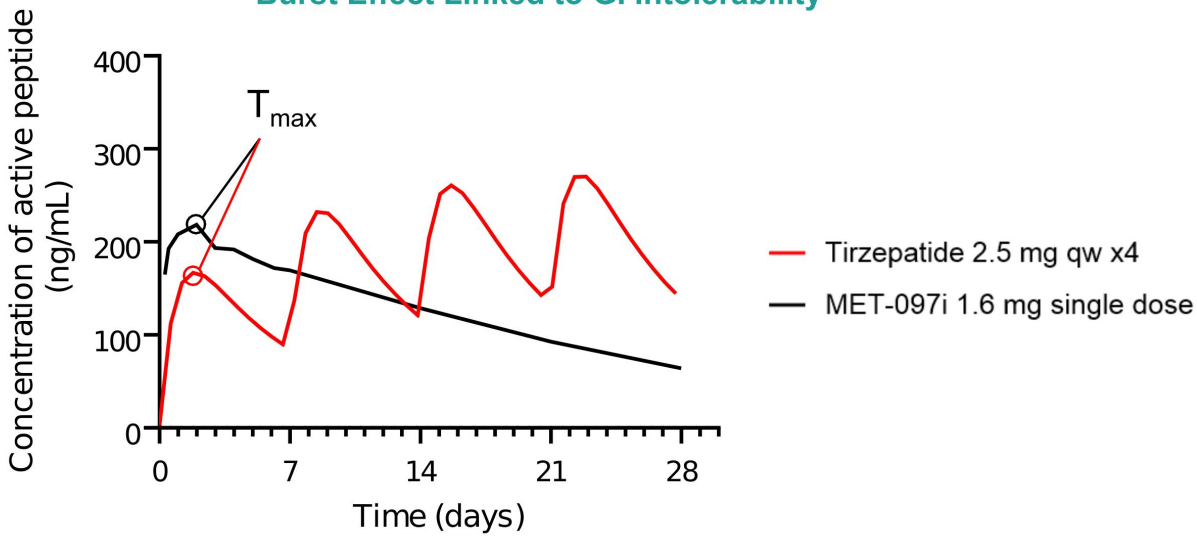
MBX 4291 Phase 1 Preliminary SAD Data Demonstrates Dose-Proportional PK with Gradually Increasing and Sustained Concentrations of Active Peptide after a Single Dose



Source: MBX 4291 Phase 1 trial, ongoing and blinded
120 mg cohort ongoing

Tirzepatide and MET-097i Reached Maximum Concentration within Two Days of Dosing

Burst Effect Linked to GI Intolerability



Source for tirzepatide concentrations: CPT Pharmacometrics Syst Pharmacol. 2024 Mar;13(3):494-503. Tirzepatide is the active ingredient in Zepbound.
Source for MET-0971i concentrations: estimated from graphics presented in Metsera, Inc. Form S-1, filed January 10, 2025.
Tirzepatide simulated for a mean BW of 97.1 kg
$T_{1/2Cmax}$ calculated as time to 50% of Cmax
This figure represents different studies conducted at different points in time in different patients, and it is not intended to provide a head-to-head comparison.

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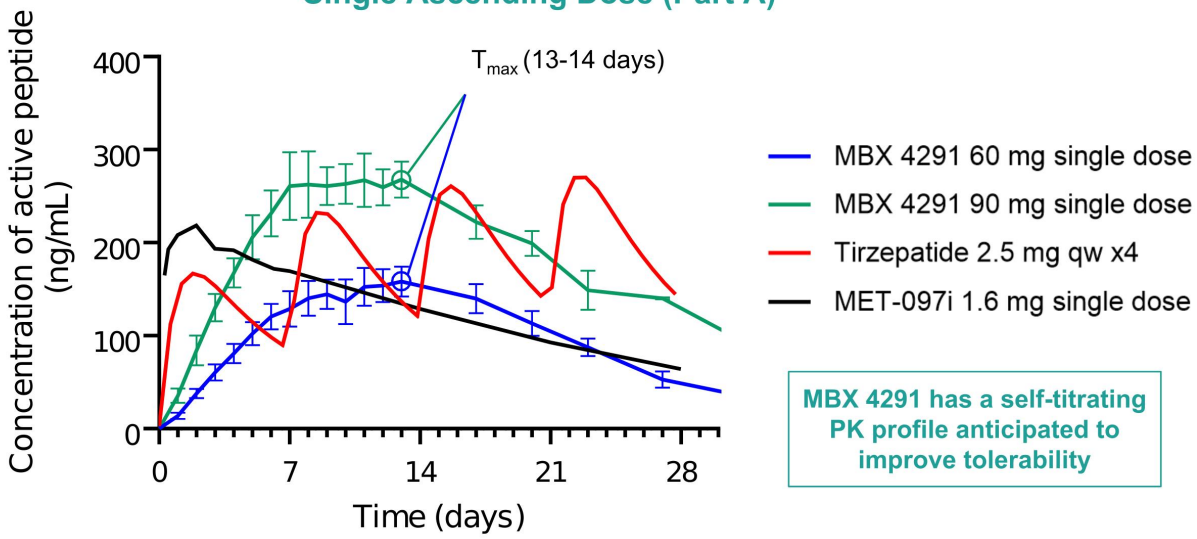
MBX 4291: Delayed Time to Maximum Concentration Anticipated to Improve Tolerability; Concentrations Sustained throughout Month

Single Ascending Dose (Part A)



MBX 4291 has a self-titrating PK profile anticipated to improve tolerability

Source: MBX 4291 Phase 1 trial, ongoing and blinded
This figure represents different studies conducted at different points in time in different patients, and it is not intended to provide a head-to-head comparison.

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MBX 4291: Dose-Dependent GI-Related Adverse Events Were Predominantly Mild

Single Ascending Dose (Part A)

	SAD				All SAD
	15 mg (N=8, incl pbo)	60 mg (N=8, incl pbo)	90 mg (N=8, incl pbo)	180 mg (N=8, incl pbo)	N=32, incl pbo
Number of Subjects with Treatment-Emergent Events of Nausea, Vomiting or Diarrhea	1 (12.5%)	0	3 (37.5%)	7 (87.5%)	11 (34%)
Nausea (mild/moderate/severe)	0	0	1/1/0 (25%)	6/1/0 (87.5%)	7/2/0 (28%)
Vomiting (mild/moderate/severe)	0	0	1/0/0 (12.5%)	4/1/0 (62.5%)	5/1/0 (19%)
Diarrhea (mild/moderate/severe)	1/0/0 (12.5%)	0	2/0/0 (25%)	3/0/0 (37.5%)	6/0/0 (19%)

- **15 mg → 90 mg single doses were generally well tolerated, with low incidence of GI-related adverse events that were predominantly mild**
- **MTD reached with 180 mg single dose → associated with GI AEs in 7/8 participants, mostly mild**
- **120 mg cohort ongoing**

Source: MBX 4291 Phase 1 trial, ongoing and blinded
pbo = placebo

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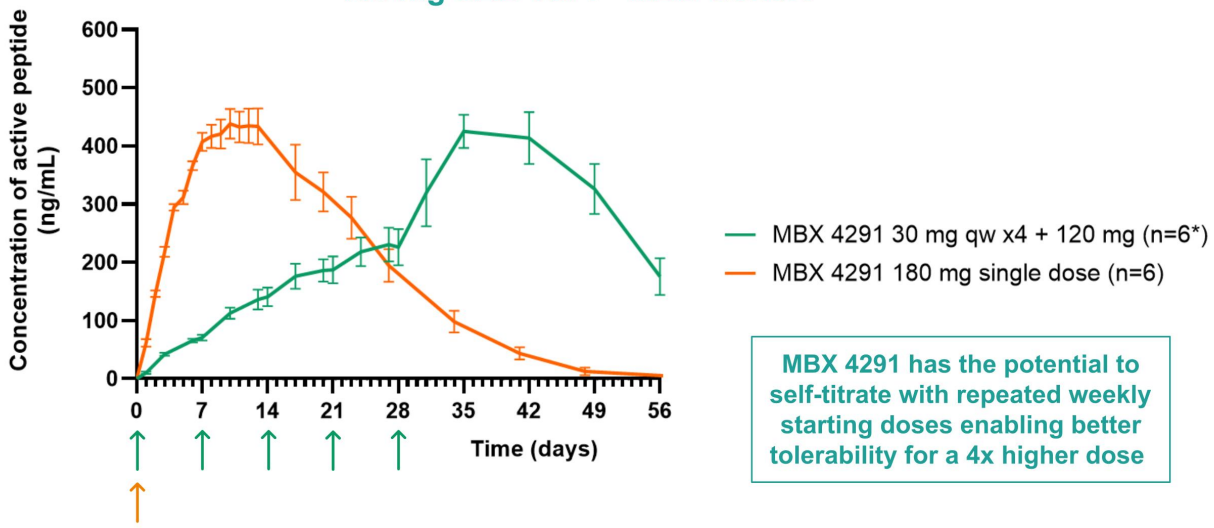
MBX 4291 Preliminary PK from First MAD Cohort Indicates Gradual Accumulation and Sustained Concentrations of Active Peptide

180 mg SAD vs. 1st MAD Cohort

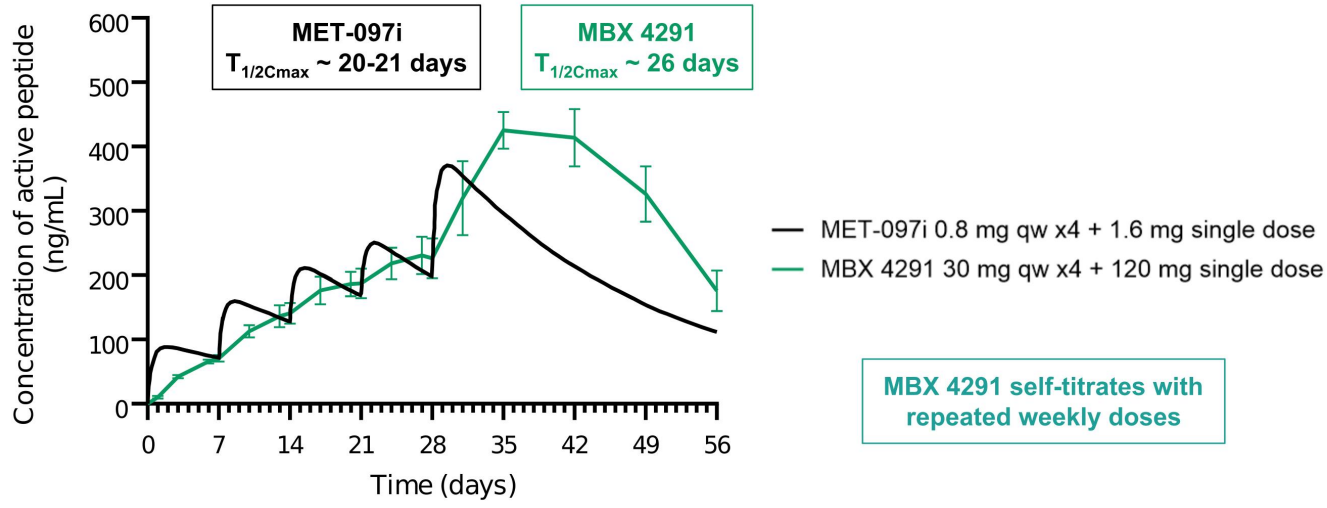


MBX 4291 has the potential to self-titrate with repeated weekly starting doses enabling better tolerability for a 4x higher dose

Source: MBX 4291 Phase 1 trial is ongoing and blinded
*n = 6 through 28 days; n = 3 28 through 56 days (additional analysis pending)

MBX 4291 PK Supports Potential for True Once-Monthly Dosing

1st Multiple Ascending Dose (Part B)



MBX 4291 self-titrates with repeated weekly doses

Source for MET-0971i concentrations: estimated from graphics presented in Metsera, Inc. Form S-1, filed January 10, 2025.
Source for MBX 4291: MBX 4291 Phase 1 trial, ongoing and blinded
$T_{1/2Cmax}$ calculated as time to 50% of Cmax
This figure represents different studies conducted at different points in time in different patients, and it is not intended to provide a head-to-head comparison.

MBX 4291 First MAD Cohort: Competitive Weight Loss and Tolerability with Potential for True Once-Monthly Dosing

30 mg qw x4 + 120 mg single dose

Mean weight loss of 7% (range 0-16%) at 8 weeks (n=8, including 2 placebo)

Safety and Tolerability

Only 1/8 subjects experienced an event of diarrhea, nausea or vomiting through 8 weeks

- One event of mild diarrhea following the first administration
- No nausea
- No vomiting

No serious adverse events

Source: MBX 4291 Phase 1 trial, ongoing and blinded

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MBX 4291 Initial Phase 1 Data Summary

- MBX 4291 designed for once-monthly dosing with controlled, sustained concentrations and improved tolerability
- **Data from the Phase 1 SAD show a PK profile supporting a self-titrating weekly induction regimen and potential for a true once-monthly regimen, including:**
  - Dose-proportional PK
  - Sustained concentrations of active peptide for 28 days
  - Dose-dependent GI-related adverse events across 4 dose cohorts, ranging from 15 to 180 mg
- **Preliminary blinded data from the first Phase 1 MAD cohort following 4 weekly induction doses of 30 mg and a single 120 mg once-monthly dose indicates:**
  - Gradual accumulation of active peptide
  - Mean weight loss of 7% (range 0-16%) at 8 weeks (n=8, 6 active, 2 placebo)
  - Only one event of diarrhea, nausea or vomiting through 8 weeks
- 12-week Phase 1 MAD (Part C) results remain on track for Q4 2026

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MBX 5765
Amycretin

Richard DiMarchi, PhD

MBX Scientific Co-Founder

Distinguished Professor of Chemistry and Gill Chair in Biomolecular Sciences at Indiana University

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MBX 5765: Multi-Agonist Amycretin Prodrug Designed for Once-Monthly Dosing, Superior Efficacy and Improved Tolerability

Multi-Receptor Agonist Profile

- Potency at the receptors equal to or greater than endogenous ligand except GCG

+ + GLP-1

+ + GIP

\+ GCG

+ + DACRA (amylin + calcitonin)

Enhanced Preclinical Potency vs. Benchmark

- Improved efficacy compared to CagriSema or Semaglutide, alone or as mix
- Improved tolerability; it's a prodrug
- Potential for a more simplified approval path compared to a mix of novel agonists

DACRA = dual amylin and calcitonin receptor agonist

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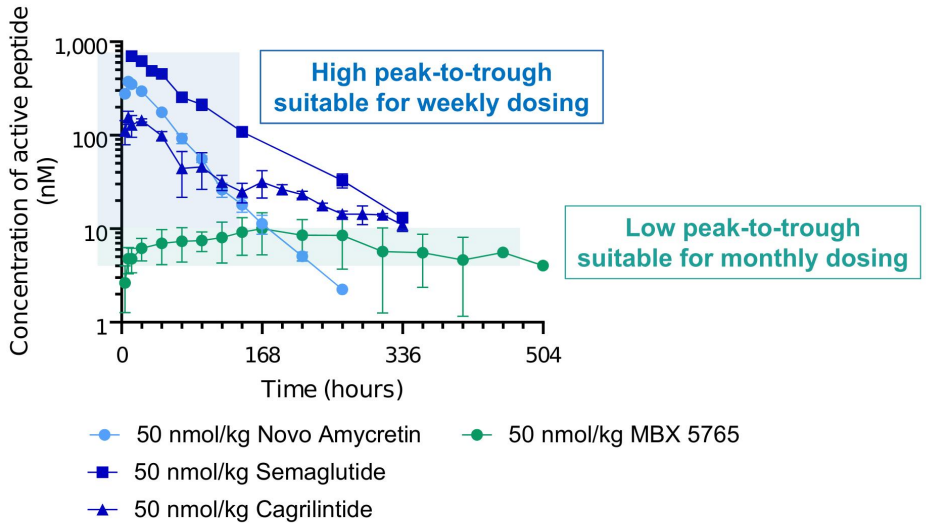
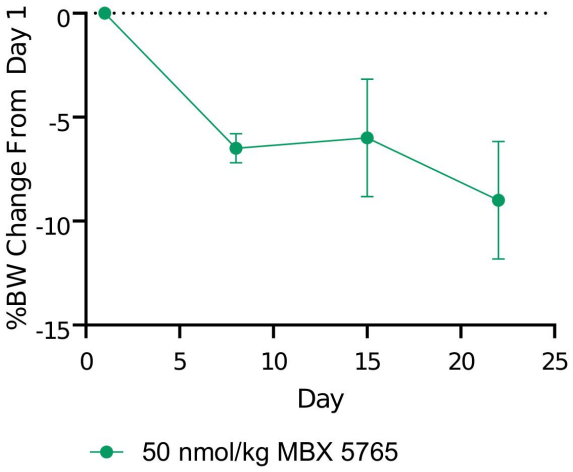
MBX 5765's Flat PK Profile Supports Potential Long Time Action and Minimized Concentration Variability



MBX 5765 single dose in non-human primates
Semaglutide data linearly scaled from a 10 nmol/kg dose; Novo amycretin data linearly scaled from a 30 nmol/kg dose.
Data shown in this figure represent different studies conducted at different times.
Third-party candidates used in these studies were internally-generated comparators.

MBX 5765: Observations and Body Weight Loss



- Expected PD effects seen for a single 50 nmol/kg dose consistent with other incretins and DACRAs but without vomiting
- Effects on body weight persisted the entire 3-week monitoring interval from a single dose whereas side effects consistent with incretins/DACRAs (dehydration, lethargy) recovered within the first week

Single dose in non-human primates

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Pipeline Designed to Address Broad Range of Obesity Patient Needs

MBX is developing a robust obesity portfolio with potential to drive strong optionality across patient segments

1
MBX 4291
GLP-1/GIP
Q4W superior tolerability

2
MBX 5765
Amycretin
Q4W superior efficacy and improved tolerability

3
MBX 6XXX
GGG Agonist
Q4W with superior tolerability

MBX Biosciences

Conclusion

Kent Hawryluk

President & CEO

Imapextide Phase 2a Study Design Overview

Trial Design

≤28-Day screening period	Day 1 MMTT	Day 7 Imapextide low dose	Day 9 MMTT	Day 16 Safety follow-up	Day 23 Imapextide high dose	Day 25 MMTT	Day 32 Safety follow-up	Day 39 End of study

Endpoints

Primary:

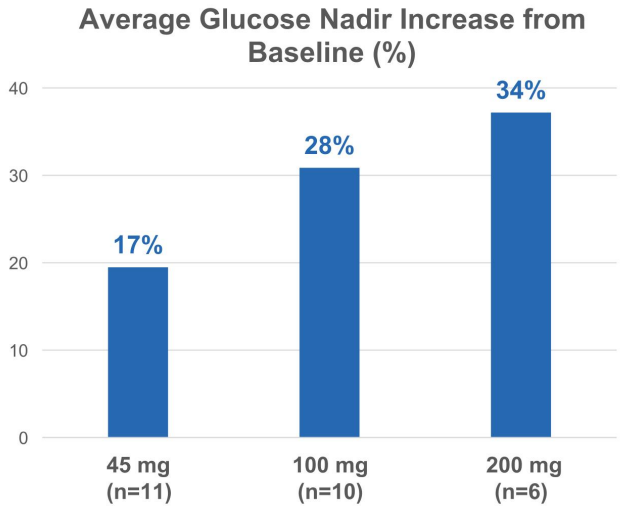
- Assess efficacy in increasing post-prandial glucose nadir (referring to the lowest point in blood glucose levels that occurs after a meal) during a standardized mixed meal tolerance test (MMTT)

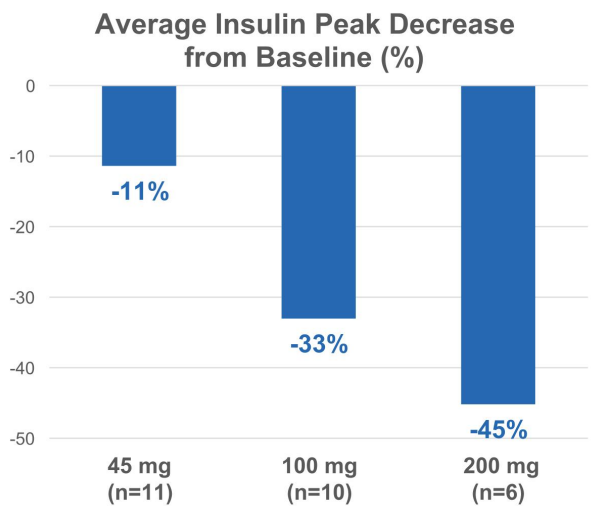
Secondary:

- Assess post-prandial insulin and C-peptide peaks
- Evaluate safety and tolerability
- Evaluate pharmacokinetic parameters

SC=subcutaneously;
ClincalTrials.gov ID: NCT07029412

Imapextide: Proof of Concept Achieved in Post-Bariatric Hypoglycemia (PBH)





Source: Imapextide Phase 2a study.
Data calculated from a total of 20 baseline MMTTs, and 11, 10 and 6 MMTTs conducted at T_{max} after 45 mg, 100 mg, or 200 mg imapextide single dose, respectively.

Expanding Pipeline of Novel Peptide-Based Drug Candidates

- Preliminary, blinded MBX 4291 data further demonstrate potential of PEP™ platform:
  - PK supports potential for true once-monthly dosing
  - Mean weight loss of 7% (range 0-16%) at 8 weeks in first MAD Part B cohort (n=8, including 2 placebo)
  - MBX 4291 generally well tolerated; only one event of diarrhea, nausea or vomiting in first MAD Part B cohort
- MBX 4291 12-week MAD Part C results remain on track for Q4 2026
- MBX 5765 nominated as amycretin prodrug development candidate designed for once-monthly dosing, superior efficacy and improved tolerability
- Prioritized resource and capital allocation to canvuparatide and obesity programs provides strongest opportunity to deliver long-term value

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MBX: Catalyst-Rich Year

Program	Milestone	Anticipated Timing
Canvuparatide (MBX 2109)	End-of-Phase 2 FDA Meeting	☑
	Avail™ Phase 2 presentation and one-year OLE data	ENDO 2026
	Phase 3: Initiation	Q3 2026
MBX 4291 (GLP-1/GIP)	Phase 1: 12-week MAD results	Q4 2026
MBX 5765 (amycretin)	Nominate development candidate	☑
MBX 6XXX (GLP-1/GIP/GCGR)	Nominate development candidate	Q3 2026
Imapextide (MBX 1416)	STEADI™ Phase 2a: Results	☑

$440 million in cash expected to provide runway into 2029[1]

[1] Unaudited cash, cash equivalents and marketable securities as of March 31, 2026

Q&A

Thank You

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