MBX Biosciences

Precision Endocrine Peptides™

Company Overview

June 2025

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.

Pioneering Precision Peptides for Endocrine and Metabolic Diseases

Developing treatments to improve clinical outcomes and simplify disease management

Proprietary Precision Endocrine Peptide™ (PEP™) Platform	• Founded by global leaders in peptide drug design, development and commercialization • **Precision therapeutics** with optimized pharmaceutical properties: extended duration of action, consistent drug exposures, less frequent dosing

Two rare endocrine programs in clinical development	• **Canvuparatide (MBX 2109) for Hypoparathyroidism (HP)**: PTH peptide prodrug with FDA Orphan Drug Designation
	  • Designed to deliver continuous, infusion-like exposure to PTH and convenient weekly dosing
	• **MBX 1416 for Post-bariatric Hypoglycemia (PBH)**: long-acting GLP-1 receptor antagonist
	  • Designed to prevent severe hypoglycemia and improve quality of life with convenient weekly dosing

Differentiated obesity portfolio	• **MBX 4291 for obesity**: GLP-1/GIP receptor co-agonist prodrug with potential for monthly dosing
	  • IND-enabling studies complete; IND submission anticipated in Q2 2025
	  • Potential for less frequent dosing, improved GI tolerability and increased weight loss as demonstrated in preclinical models
	• **Multiple additional programs**: in lead optimization stage of development for obesity and co-morbidities

Strong financial position	• >$400 million raised to date from leading healthcare investors • ~**$240 million in cash** as of March 31, 2025[1]; expected to support operations into mid-2027

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1. Unaudited cash, cash equivalents and marketable securities

MBX's World-class Leadership Team

Kent Hawryluk
PRESIDENT & CEO

Sam Azoulay, MD
CHIEF MEDICAL OFFICER

Rick Bartram, CPA
CHIEF FINANCIAL OFFICER

Michelle Graham
CHIEF HUMAN RESOURCES OFFICER

Chatan Charan, PhD
SENIOR VICE PRESIDENT PHARMACEUTICAL DEVELOPMENT & CMC

Mike Dorato, PhD
SENIOR VICE PRESIDENT DISCOVERY & NONCLINCAL DEVELOPMENT

Mark Hope
SENIOR VICE PRESIDENT REGULATORY & QUALITY

Elisa Fabbrini, MD, PhD
VICE PRESIDENT CLINICAL DEVELOPMENT

Matt Gambino
VICE PRESIDENT MARKETING

Stewart Hallett
VICE PRESIDENT CLINICAL OPERATIONS

Albireo AVIDITY BIOSCIENCES cerevel ESPERION GSK HARPOON Therapeutics Johnson&Johnson Lilly MEDIVATION Pfizer roivant Roche TESARO xencor

Expanding a Pipeline of PEPs in Significant Rare Disease and Obesity Markets

MBX retains global commercial rights to all programs

Candidate	MOA	Indication	Discovery	IND Enabling	Phase 1	Phase 2	Phase 3	Anticipated Milestones
Endocrine Portfolio								
Canvuparatide (MBX 2109)	PTH Prodrug	Hypo-parathyroidism						Phase 2 topline results in Q3 2025
MBX 1416	GLP-1 Receptor Antagonist	Post-bariatric Hypoglycemia						Phase 2 initiation in 2H 2025
Obesity Portfolio								
MBX 4291	GLP-1/GIP Co-agonist Prodrug	Obesity & co-morbidities						IND submission in Q2 2025

Beyond MBX 4291, we have a robust discovery pipeline including multiple obesity programs in the lead optimization stage of development.

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GLP-1=glucagon-like peptide-1; GIP=glucose-dependent insulinotropic polypeptide; PTH=parathyroid hormone

Precision Endocrine Peptide™ (PEP™) Platform

Proprietary tools and know-how with the potential to enable design and development of transformative peptide therapeutics

INNOVATIVE PEPTIDE DESIGN

With a goal to provide:

- Enhanced physical properties including stability and solubility
- Increased potency
- Multiple mechanisms of action in a single peptide

PROGRAMMABLE PRODRUG

Designed to precisely time chemical conversion of prodrug to active drug to reduce peak-to-trough ratios and improve clinical outcomes

FATTY ACYLATION

Aims to provide:

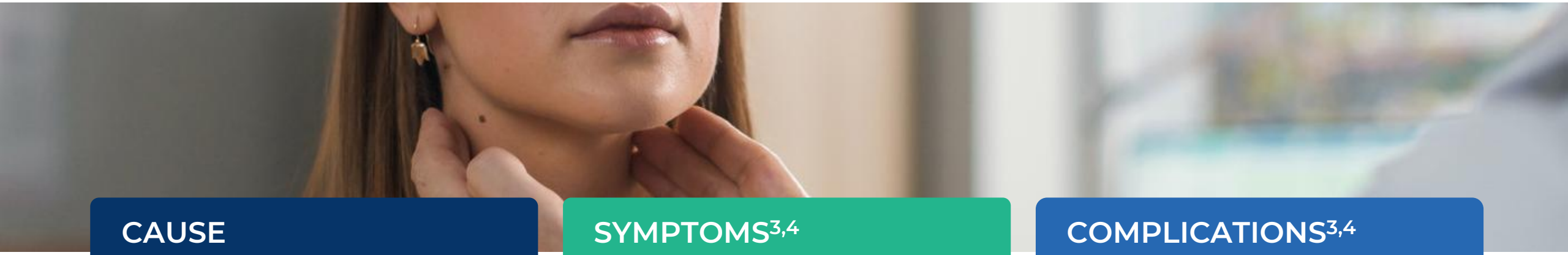
- Increased duration of action (convenient dosing regimen)
- Compatibility with non-injectable formulations (e.g. oral)

Canvuparatide (MBX 2109)

Investigational Once-Weekly PTH Replacement Therapy for Hypoparathyroidism

Canvuparatide for Hypoparathyroidism – A Serious Endocrine Disease

Estimated >250,000 patients in U.S. and EU combined[1,2]



CAUSE

Deficiency in parathyroid hormone (PTH)

Etiology: Inadvertent removal of parathyroid during thyroid surgery and less commonly due to autoimmune disease and genetic disorders

SYMPTOMS[3,4]

Hypocalcemia: Tetany, muscle cramping/spasms/twitching, numbness, tingling, seizures

Cognition: Cognitive impairment, confusion

Hypercalcemia: Polyuria, nausea, vomiting, constipation, weakness

COMPLICATIONS[3,4]

Renal: Kidney stones, chronic kidney disease, nephrocalcinosis

Cardiovascular: Arrythmias, ischemic heart disease

Depression / Infections

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PTH=parathyroid hormone

1. Clarke B et al JCEM 2016, 2. Powers J et al JBMR 2013, 3. Khan A et al JBMR 2022, 4. Yao L et al Complications Symptoms JBMR 2022

Managing Hypoparathyroidism: PTH Replacement Aims to Address Shortcomings of Standard of Care

STANDARD OF CARE

Calcium and active vitamin D[1] supplementation

- Does not address underlying pathophysiology
- Significant pill burden
- Serum calcium fluctuations
- Contributes to renal complications

DAILY INJECTIONS

Daily PTH replacement therapy

YORVIPATH® (palopegteriparatide)

- Approved in U.S. and E.U. for the treatment of hypoparathyroidism in adults

Eneboparatide

- In Phase 3 development

CANVUPARATIDE **WEEKLY** INJECTION

Investigational once-weekly PTH replacement therapy

Designed to:

- Lower daily peak-to-trough PTH exposures vs. daily injectables
- Normalize serum and renal calcium
- Eliminate pill burden
- Convenient weekly dosing
- Improve QoL
- Reduce complications

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PTH=parathyroid hormone; QoL=quality of life

1. Khan A et al. JBMR 2022

Canvuparatide (MBX 2109) Phase 1 Trial: Summary

Single and multiple ascending doses of MBX 2109 in healthy adult subjects[1]

Endpoints

Primary:

- To evaluate safety and tolerability of MBX 2109

Secondary:

- Pharmacokinetics (PK) profile of MBX 2109 prodrug and active drug
- Pharmacodynamic (PD) effects on albumin-adjusted serum calcium levels and suppression of endogenous PTH

Results[2]

- Generally well-tolerated; majority of TEAEs were injection site reactions
  - Characterized as mild, red, non-raised lesions less than 5 cm in diameter and resolved without intervention
  - No MBX 2109-related serious or severe TEAEs
  - No dose limiting toxicity or off-target AEs
- Active drug half-life across all doses ~7.7 to 8.9 days, supportive of a once-weekly dosing regimen
- Infusion-like profile with mean peak-to-trough ratios of 1.47 to 1.79 over a seven-day period
- Dose and time-dependent effect in increasing serum calcium levels and reducing endogenous PTH

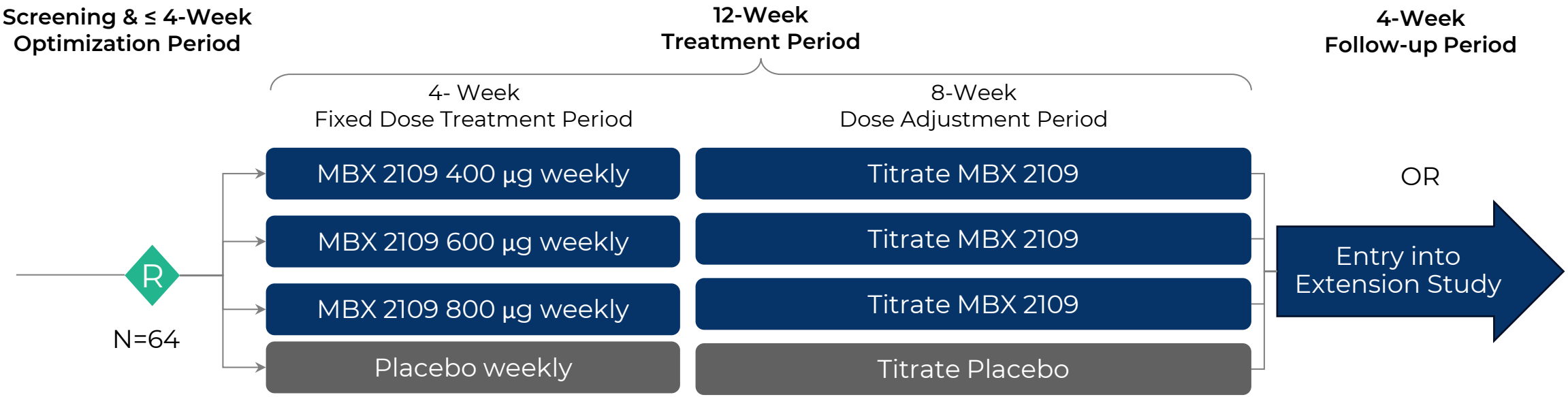
SAD=single ascending dose; MAD=multiple ascending dose; SC=subcutaneous; QW=every week

1. ClinicalTrials.gov Identifier: NCT05158335
2. Carney, et al. MBX 2109, A Once-Weekly Parathyroid Hormone Replacement Therapy Prodrug: Phase 1, First-In-Human, Randomized Trial, *The Journal of Clinical Endocrinology & Metabolism*, 2024

Avail (Phase 2) Trial Overview: Canvuparatide (MBX 2109)

Enrollment complete; TLR anticipated in Q3 2025

Trial Design



Endpoints

Primary:

- Normalization of albumin-adjusted serum calcium while independent from active vitamin D and calcium supplements (≤600 mg/day) at Week 12

Secondary: Safety, PK, PD, PRO

- Safety and tolerability
- Urine calcium, serum phosphorus, 1,25 dihydroxyvitamin D, bone biomarkers
- PK profile
- Patient reported outcome (PRO) assessments

MBX 1416:

Long-Acting GLP-1 Receptor Antagonist for Post-bariatric Hypoglycemia

Post-bariatric Hypoglycemia (PBH): a Rare, Serious and Chronic Complication of Bariatric Surgery

Estimated >90,000 patients in U.S.[1,2,3,4]

CAUSE[1,2]

Rapid transit of nutrients into intestines **stimulates excess GLP-1 and insulin secretion**; occurs after a meal

PBH presents six months to years after roux-en-Y gastric bypass and sleeve gastrectomy

SYMPTOMS

Severe Hypoglycemia

Neuroglycopenia symptoms including seizures, loss of consciousness, confusion, weakness, dizziness and blurred vision

PATIENT IMPACT

Unpredictable timing and frequency

Social isolation

Diminished quality of life, including disability

Glucagon injection may be required

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1. Fischer et al Surg Obes Relat Dis. 2021, 2. Michaels et al Obes Surg. 2017, 3. Lee et al Obesity 2015, 4. Internal Estimates

Managing PBH: No Currently Approved Pharmacotherapies

STANDARD OF CARE[1,2]

Includes restricted diet, off-label medications and surgery

Frequent, small meals and avoid/limit high glycemic index foods

- Limited efficacy and long-term adherence challenges

Off-label use of acarbose, diazoxide and octreotide

- Limited clinical data
- Side effect profiles and cost may limit patient adherence

IN DEVELOPMENT

Once-daily PBH investigational therapy

Avexitide

- GLP-1 receptor antagonist in Phase 3 development

MBX 1416

Once-weekly PBH investigational therapy

Designed to:

- Provide daily and nightly prevention of severe hypoglycemia and associated risks
- Offer convenient weekly dosing
- Improve QoL
- Eliminate need for rescue therapy (glucagon) and surgical intervention

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1. Suhl E et al Surg Obes Relat Dis 2017, 2. Salehi M et al JCEM 2018

MBX 1416 Phase 1 Trial

Single and Multiple Ascending Doses of MBX 1416 in healthy adult subjects[1]

SAD (n=32) COMPLETE

- n=8 subjects/cohort (2 placebo: 6 active)
- Treatments: placebo or MBX 1416 dosed at 10, 30, 100 and 200 mg SC

MAD (n=23) COMPLETE

- n=up to 8 subject/cohort (2 placebo: 6 active)
- Treatments: placebo or MBX 1416 dosed at 10 mg, 15 mg in 2 injections, or 30 mg SC QW x 4

Endpoints

Primary:

- To evaluate safety and tolerability

Secondary:

- Pharmacokinetic (PK) profile of MBX 1416
- Pharmacodynamic (PD) – Response to Mixed Meal Tolerance Test (MAD)

A cohort (n=14) evaluated potential drug-drug interaction (DDI) of MBX 1416 on rosuvastatin exposure and on gastric emptying by using acetaminophen

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1. ClinicalTrials.gov Identifier: NCT06036784;

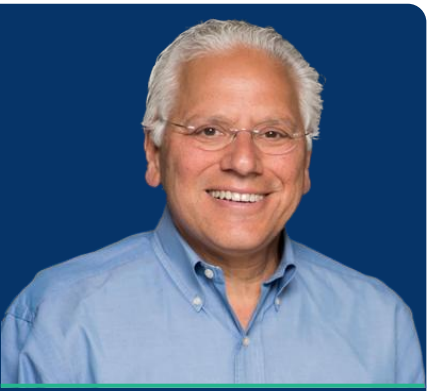
Key Highlights from Phase 1 Study of MBX 1416

- MBX 1416 was generally well tolerated with a favorable safety profile
- No MBX 1416 dose-related serious adverse events were observed, and the majority of TEAEs were mild or moderate injection site reactions
- MBX 1416 concentrations increased dose-proportionally in both the SAD and MAD cohorts
- PK profile supportive of weekly administration:
  - In the MAD, MBX 1416 median half-life was approximately 90 hours
  - Median T_{max} of MBX 1416 at steady state was between 36 and 48 hours post-dose
- Consistent with known GLP-1 antagonism effect on gastric motility, a slight acceleration of gastric emptying was observed with MBX 1416 based on acetaminophen exposure
- MBX 1416 had no meaningful effect on rosuvastatin exposure, a commonly prescribed statin
- In mixed meal tolerance tests, MBX 1416 appeared to increase GLP-1 within 60 mins suggesting a PD effect in healthy volunteers that may translate into a therapeutic benefit in PBH patients; no meaningful changes observed in other parameters (glucose, insulin, c-peptide), as expected in healthy volunteers

TEAE = treatment emergent adverse event; ISR = injection site reaction; SAD = single ascending dose; MAD = multiple ascending dose; DDI = drug-drug interaction
T_{max} = time to reach maximum concentration

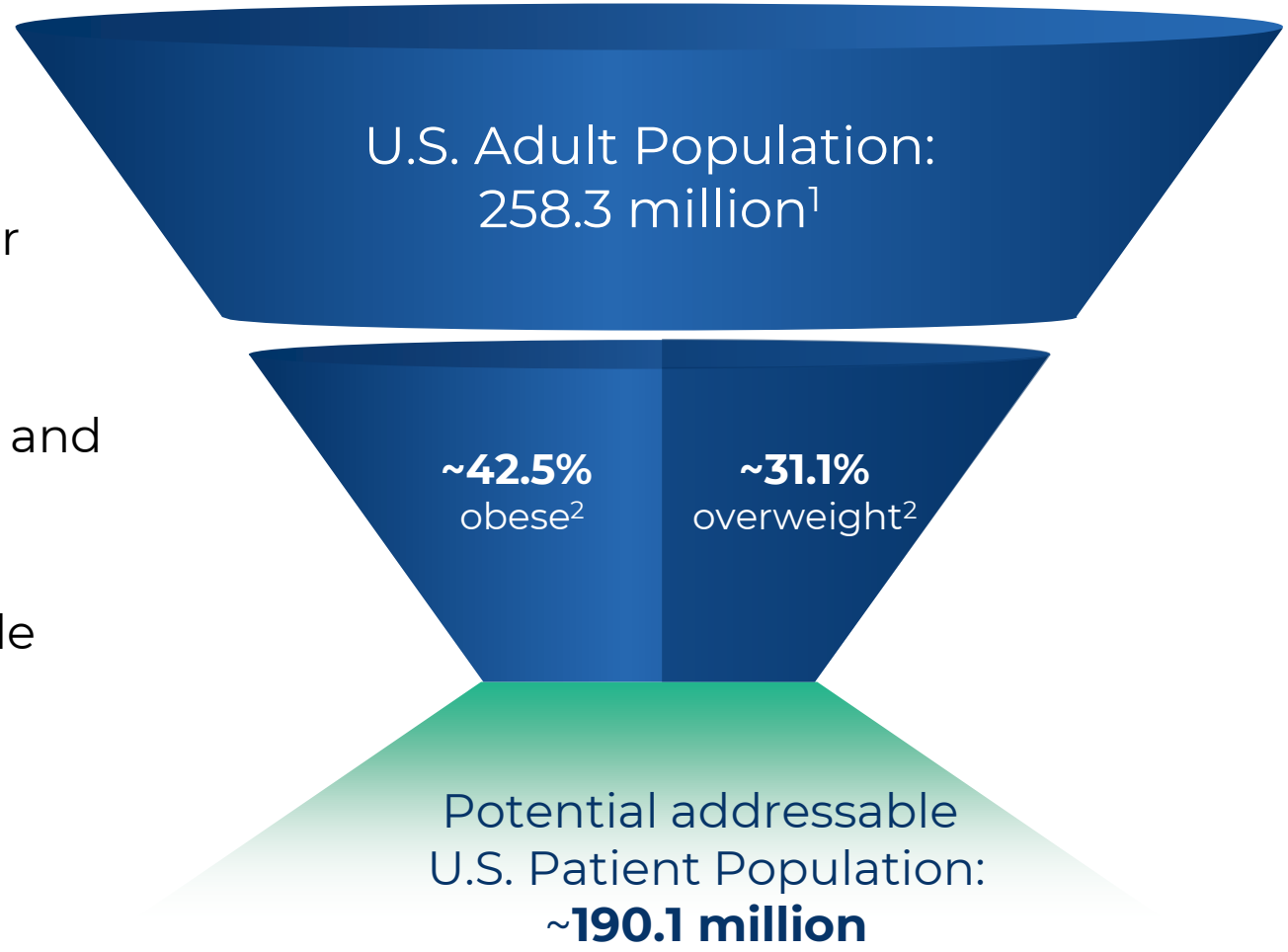
Obesity Portfolio

Obesity: a Global Epidemic with Large Potential Commercial Opportunity



MBX scientific founder, Richard DiMarchi, PhD

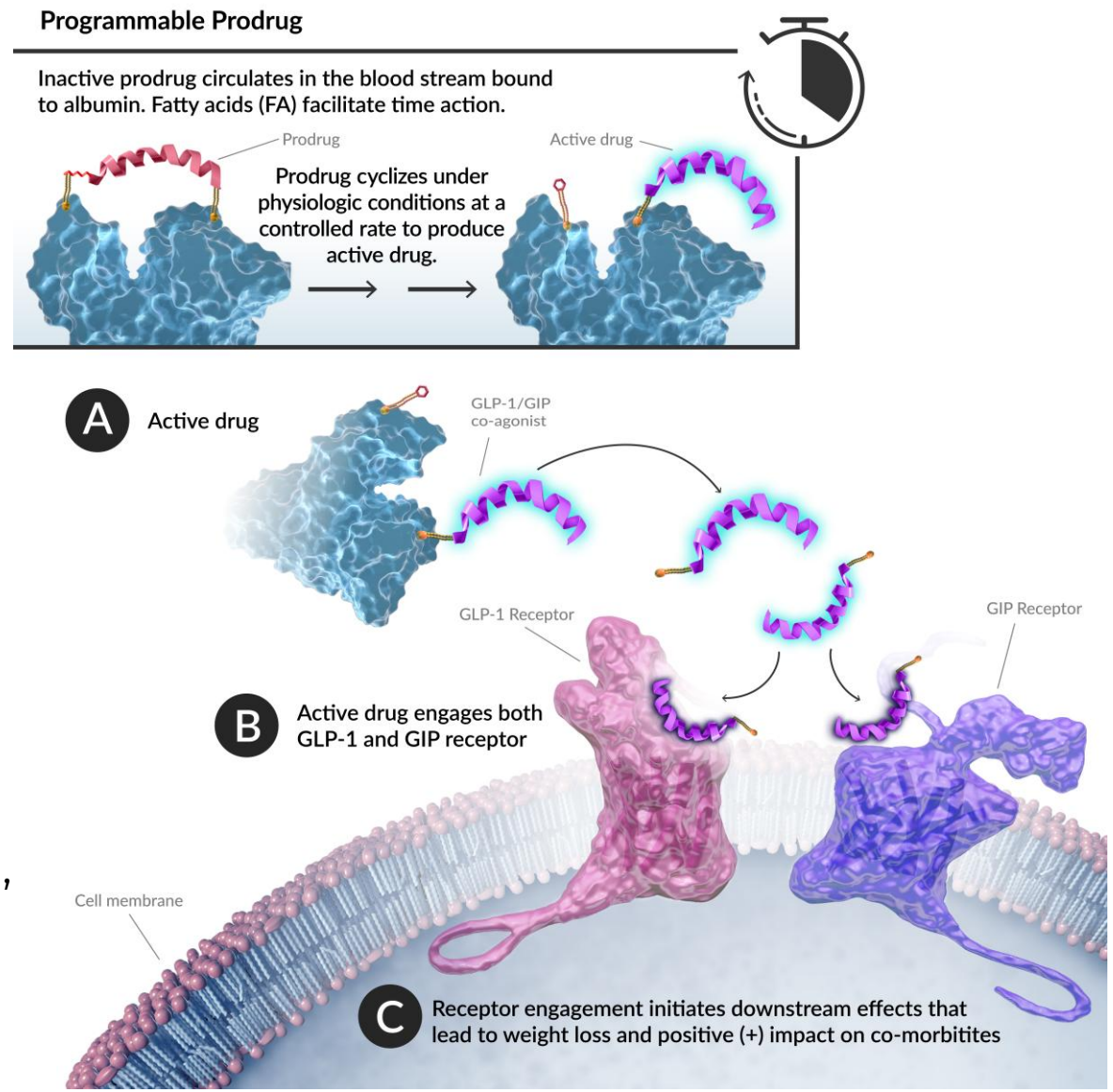
- Multiple candidates in discovery/pre-clinical development for obesity offer treatment flexibility
- Leveraging PEP™ platform technology for optimized PK and infrequent dosing
- Discovered by Dr. DiMarchi, inventor of first dual and triple incretin agonists



Obese=(BMI>30 kg/m2); Overweight= (BMI 25.0-29.9 kg/m2)
1. 2020 U.S. adult population www.census.gov; 2. www.cdc.gov/nchs/data/hestat/obesity-adult-17-18/obesity-adult.htm

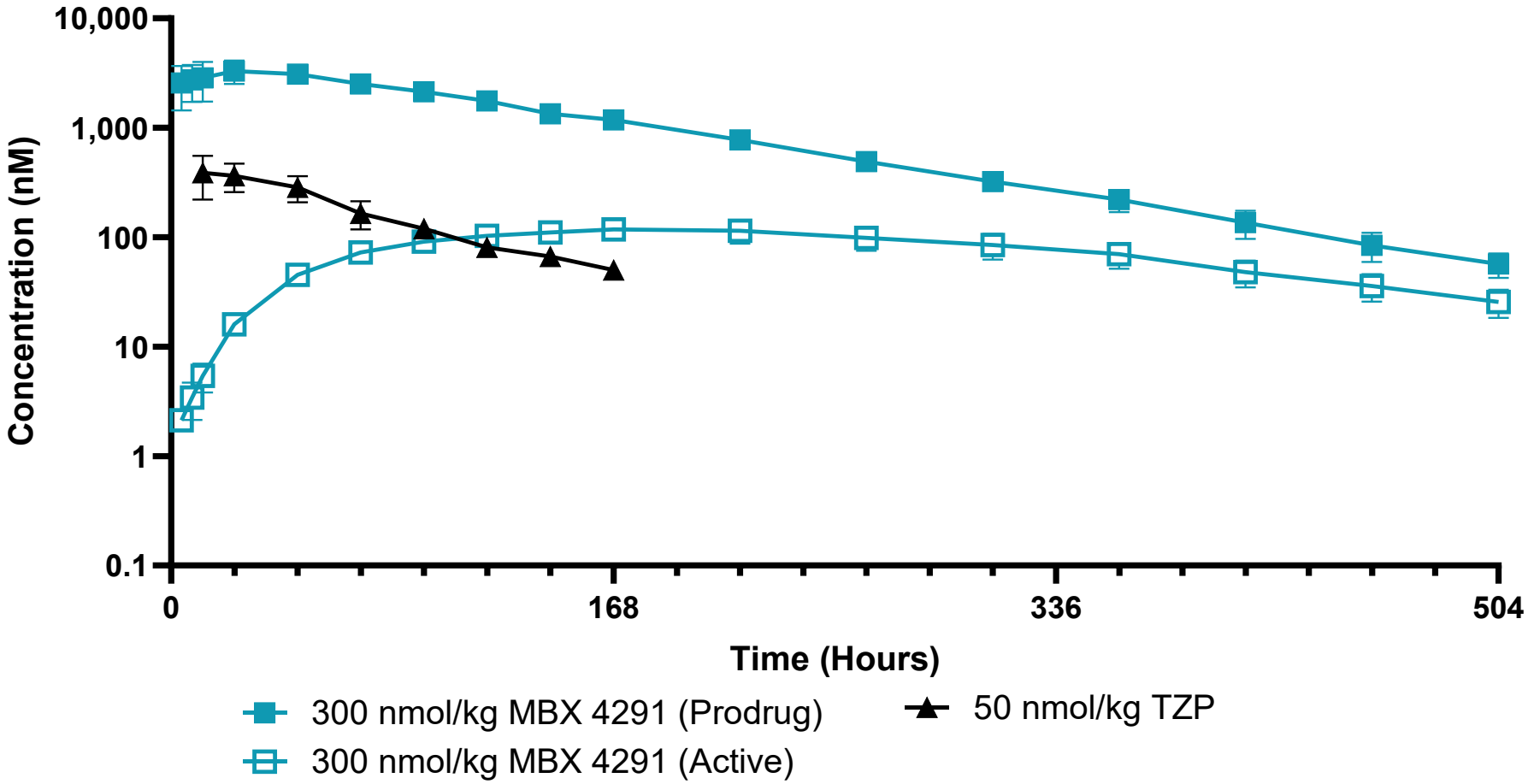
MBX 4291: Long-acting GLP-1/GIP Development for Obesity

- Designed as a high potency **GLP-1/GIP receptor co-agonist** utilizing PEP™ technology
- Dual-agonism results in **statistically and clinically meaningful greater weight loss relative to mono-agonism**
- IND-enabling studies complete; **IND submission anticipated in Q2 2025**
- Potential for **once-monthly** administration, improved **GI tolerability,** and **increased maximal weight loss**



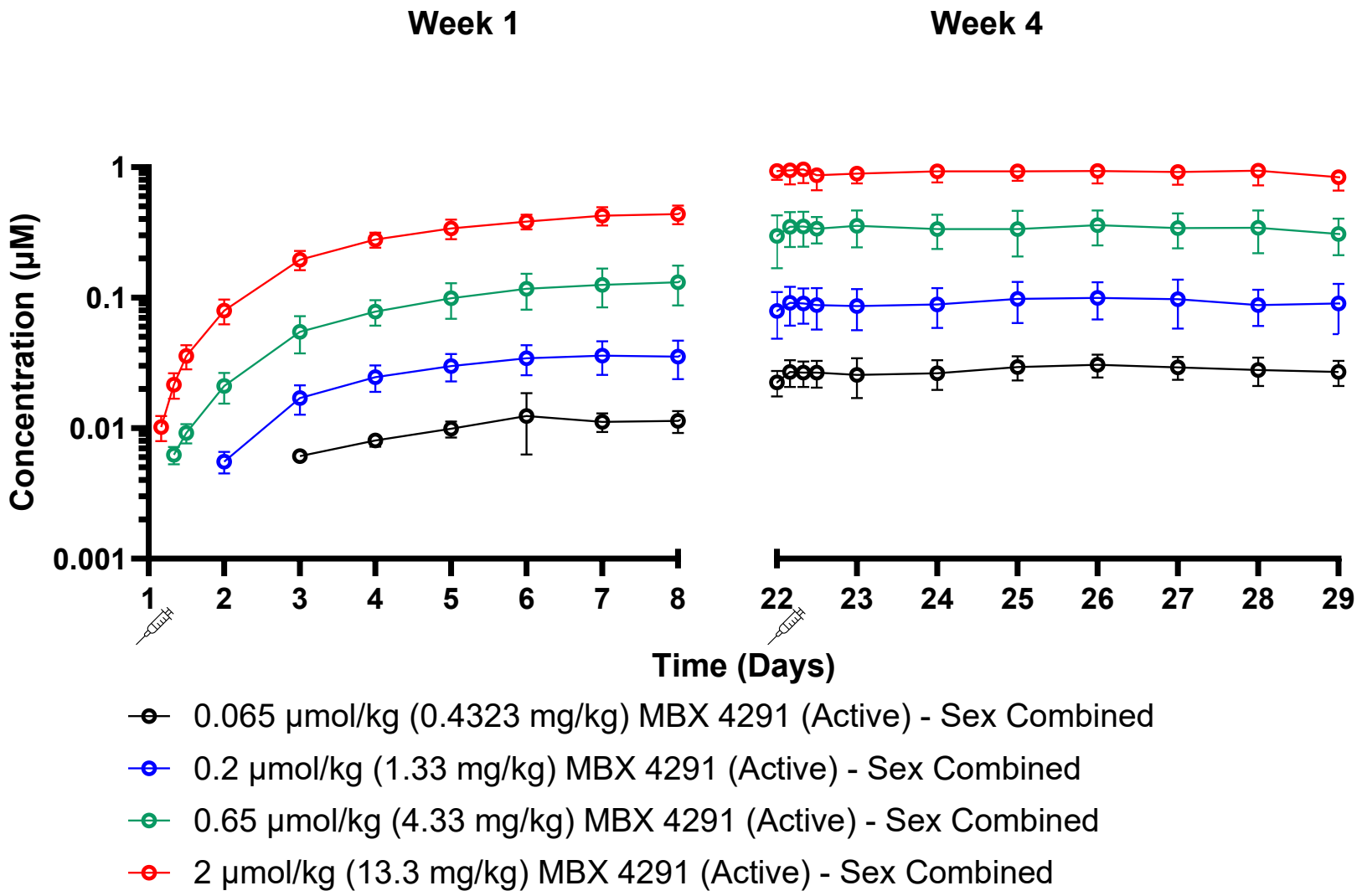
Press Release: Dec. 4, 2024: Lilly's Zepbound® (tirzepatide) superior to Wegovy® (semaglutide) in head-to-head trial showing an average weight loss of 20.2% vs. 13.7%

MBX 4291 Active Drug Demonstrated Extended Time-action Profile in NHPs Compared to Tirzepatide that may Support Once-monthly Dosing



NHP = non-human primates
TZP = tirzepatide

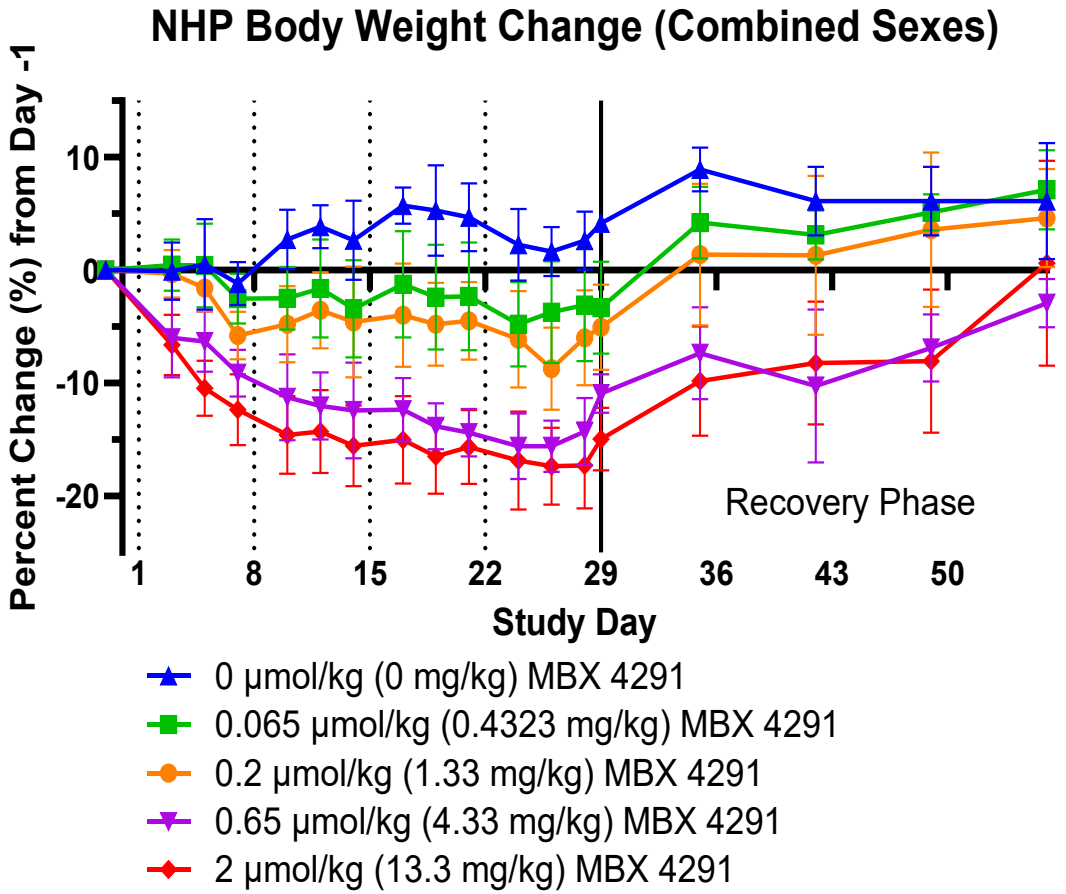
MBX 4291 Infusion-like Profile Demonstrated in Once-weekly Repeat Administration in NHPs



NHP = non-human primates

MBX 4291 Demonstrated Significant Weight Loss vs. Baseline in NHPs

1



NHP = non-human primates

Substantial Value Inflection Opportunities in 2025

PROGRAM	MILESTONE	ANTICIPATED TIMING
Canvuparatide (MBX 2109)	Avail™ (Phase 2) Enrollment Completion	**Complete**
	Avail™ (Phase 2) Topline Results	Q3 2025
MBX 1416	Phase 1 Topline Results	**Complete**
	End of Phase 1 Meeting	Mid-2025
	Phase 2 Initiation	2H 2025
MBX 4291	IND Submission	Q2 2025
	Phase 1 Initiation	2H 2025

Thank You

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