MBX Biosciences Presents MBX 2109 Phase 2 Avail™ Hypoparathyroidism Trial Rationale and Design at the ASBMR 2024 Annual Meeting

September 30, 2024

CARMEL, Ind., Sept. 30, 2024 (GLOBE NEWSWIRE) -- MBX Biosciences, Inc. (NASDAQ: MBX), a clinical-stage biopharmaceutical company focused on the discovery and development of novel precision peptide therapies for the treatment of endocrine and metabolic disorders, today announced that both the rationale and design of the Phase 2 Avail™ trial of MBX 2109, the Company's potential long-acting parathyroid hormone (PTH) peptide prodrug, in adults with hypoparathyroidism (HP) were featured in a poster presentation at the American Society for Bone and Mineral Research (ASBMR) 2024 Annual Meeting held in Toronto, ON, Canada September 27-30, 2024.

"We are pleased to share more information on our ongoing Phase 2 MBX 2109 trial in patients with HP at ASBMR," said Kent Hawryluk, President and Chief Executive Officer of MBX Biosciences. "MBX 2109 was designed to treat the underlying pathophysiology of HP. We believe this study will provide insight into its potential to provide patients with consistent and convenient relief from the burdensome symptoms caused by PTH deficiency and identify appropriate doses to be studied in the Phase 3 program. Dosing in the trial commenced in August 2024, and topline results are anticipated in the third quarter of 2025."

MBX 2109 is an investigational, PTH peptide prodrug designed as a once-weekly PTH replacement therapy with the potential to normalize serum calcium levels, reduce the need for active vitamin D and calcium supplementation, and improve patient convenience and treatment adherence.

The Phase 2 Avail™ trial (NCT06465108) is a randomized, multicenter, 12-week, double-blind, placebo-controlled study evaluating the safety, pharmacokinetics, and efficacy of MBX 2109 in approximately 48 adults with HP. The primary endpoint of the Phase 2 clinical trial is the proportion of patients who can discontinue active vitamin D and reduce calcium supplements to less than or equal to 600 mg per day after 12 weeks of treatment while maintaining normal serum albumin-adjusted calcium levels (8.2-10.6 mg/dL). Secondary endpoints include safety and tolerability of MBX 2109 and characterization of its pharmacokinetics and pharmacodynamic activity (including urine calcium, serum phosphorus, 1,25 dihydroxyvitamin D and bone biomarkers) and the impact on quality of life using patient-reported outcome tools.

The trial begins with an optimization period of up to 4 weeks in which doses of calcium, vitamin D, and/or magnesium supplements are adjusted to achieve normal serum calcium levels. Participants completing the optimization period are then randomized 1:1:1:1 to receive weekly doses of placebo or MBX 2109 at 400, 600, or 800 µg for 12 weeks. The treatment period is comprised of a 4-week fixed-dose period and an 8-week titration period. During the 8-week dose-adjustment period, doses of MBX 2109 and active vitamin D and calcium supplements are adjusted according to a prespecified protocol algorithm to reduce risk of hypo- or hypercalcemia. Participants completing the 12-week treatment period may enroll in a long-term, open-label extension study (NCT06531941). Participants who received MBX 2109 will maintain their existing dosage from the 12-week trial (200 to 1600 µg of MBX 2109) while patients on placebo will transition to MBX 2109 at the 400 µg dose.

The first patient in the study was dosed in August 2024. The study is actively enrolling, and topline study results are expected to be available in the third quarter of 2025.

About Hypoparathyroidism
HP is a rare endocrine disease caused by a deficiency of PTH released by the parathyroid glands that results in decreased calcium levels in the blood leading to hypocalcemia. Hypocalcemia can result in a variety of acute symptoms, such as muscle cramping or spasm, tingling, and neurological symptoms such as depression, confusion and cognitive impairment. More serious complications can occur, including seizures and cardiac arrhythmias. As a result, HP can interfere with daily activities, negatively impacting the quality of life for patients and we estimate that HP affects approximately 120,000 people in the United States and more than 250,000 in the United States and Europe. The most common cause for HP, in approximately 75% of cases, is the inadvertent removal or damage to the parathyroid glands during neck surgery. It can also be caused by certain autoimmune processes and genetic conditions. The current standard of care for HP does not address the PTH deficiency, which is the underlying cause of the disease. To avoid hypocalcemia and its symptoms due to PTH deficiency, the current standard of care consists primarily of high doses of oral calcium supplements and active vitamin D.

About MBX 2109
MBX 2109 is a parathyroid hormone peptide prodrug that is designed as a potential long-acting hormone replacement therapy for the treatment of HP. Leveraging the Company's proprietary Precision Endocrine Peptide™ platform technology, MBX 2109 was designed to provide convenient, once-weekly administration and a continuous, infusion-like PTH exposure with lower daily peak-to-trough ratios than observed with daily PTH dosing regimens. MBX 2109 received orphan drug designation from the U.S. Food and Drug Administration for the treatment of HP.

About MBX Biosciences
MBX Biosciences is a biopharmaceutical company focused on the discovery and development of novel precision peptide therapies for the treatment of endocrine and metabolic disorders. The Company 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. 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 its lead product candidate MBX 2109, in Phase 2 development for the treatment of chronic hypoparathyroidism (HP); MBX 1416, in Phase 1 development for the treatment of post-bariatric hypoglycemia (PBH); and an obesity portfolio that includes MBX 4291, as well as multiple discovery and pre-clinical candidates in development for the treatment of obesity. The Company is based in Carmel, Indiana. To learn more, please visit the Company website at www.mbxbio.com and follow us on LinkedIn.

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 Phase 2 Avail™ trial of MBX 2109, including the timing of topline results and the ability to provide insight into MBX 2109's potential to provide patients with consistent and convenient relief from the burdensome symptoms caused by PTH deficiency and identify appropriate doses to be studied in the Phase 3 program; the potential for MBX 2109 to normalize serum calcium levels, reduce the need for active vitamin D and calcium supplementation, and improve patient convenience and treatment adherence; and the potential for MBX 2109 to be a once-weekly PTH replacement therapy.

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; 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' Registration Statement on Form S-1 filed with the Securities and Exchange Commission (SEC), as well as subsequent filings with the 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.

Media Contact:
Kate Burdick
Inizio Evoke Comms
Kate.burdick@inizioevoke.com
860-462-1569

Investor Contact:
Irina Koffler
LifeSci Advisors
ikoffler@lifesciadvisors.com
917-734-7387