Canvuparatide

Also called: MBX 2109; MBX-2109; PPL 2717; Canvuparatida

What it is

Canvuparatide (MBX 2109) is a prodrug of human PTH(1-32) extended by a fatty-acylated lysine, built to release its active peptide slowly; in healthy adults the active peptide's half-life was 184 to 213 hours after four weekly injections, with no serious adverse events (PMID 39574220). MBX Biosciences reported on September 22, 2025 that 63% of patients with hypoparathyroidism on the drug met the phase 2 week-12 goal against 31% on placebo. A phase 3 trial (NCT07699471) began in August 2026; it is approved nowhere.

Approval status

In Clinical Trials. Not approved anywhere: Drugs@FDA and the openFDA label endpoint hold no record (searched November 4, 2026). MBX Biosciences reported the phase 2 Avail trial (NCT06465108, 64 patients) as meeting its primary end point on September 22, 2025, and its phase 3 trial (NCT07699471, 160 planned) has recruited since August 26, 2026.

Dosing, as printed in the page's Recommended Dosing box

Used in human trials

No manufacturer dose exists for this use: these are amounts given in published trials, not recommendations.

Protocol and source	Dose	Frequency	Duration	Route
Phase 1: repeated doses, healthy adults **[Human study]** PMID 39574220	200, 400, 600 or 900 µg	Once a week	4 doses (days 1, 8, 15 and 22)	Subcutaneous
Phase 1: single doses, healthy adults **[Human study]** PMID 41780637	50 to 600 µg	Once	Single injection	Subcutaneous

Educational information, not medical advice. Each dose above is tagged with its source: an approved label, a published human study, animal data, or amounts reported by users. None is a recommendation for you. An unapproved compound has no established safe or effective human dose, and products sold for "research use only" are not made or tested for people. Talk to a doctor before acting on anything on this site, including before you start, stop or change any medicine or dose.

Key human evidence

The 2 human studies carded on the page (4 study cards in all):

• **Phase 1: four weekly doses in healthy adults** (Human, 2025). Forty healthy adults (average age 43, about a fifth women) were randomised four to one to canvuparatide or placebo, injected under the skin once a week for four weeks at 200, 400, 600 or 900 micrograms, eight people per dose. Adverse events of any kind were reported by half to seven in eight people on the drug and a quarter on placebo, none of them severe or serious, and injection-site reactions were the commonest drug-related event. The prodrug's half-life was 79 to 95 hours and the active peptide's 184 to 213 hours, with exposure rising with dose and over time and a flat level across the week. The authors judged that profile suitable for weekly dosing and picked doses for later trials. Registered as NCT05158335; MBX Biosciences staff are among the authors. **PMID 39574220**

• **Discovery paper: cells, rats, monkeys and single doses in people** (Human, 2026). Mostly laboratory and animal work. In human cells engineered to carry the type 1 PTH receptor, the active peptide released from the prodrug raised cyclic AMP about as strongly and as selectively as synthetic PTH(1-34). In healthy rats dosed daily for 28 days and in cynomolgus monkeys given single doses, blood levels of prodrug and active peptide rose in proportion to dose and tracked rises in blood calcium. In rats whose parathyroid glands had been removed, it returned calcium to normal and increased bone formation with dose. In the single-dose part of the phase 1 trial, 50 to 600 micrograms under the skin were well tolerated in healthy volunteers, with mean half-lives of 81 to 101 hours for the prodrug and 133 to 186 hours for the active peptide. **PMID 41780637**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 4, 2026, 0 records) found none in people. That is not evidence that it is safe to combine with anything.

Side effects and cautions

Reported side effects	Contraindications and cautions
• Injection-site reactions, the most common drug-related event in the repeated-dose phase 1 (PMID 39574220) • No severe or serious adverse events at any dose up to 900 µg weekly in healthy adults (PMID 39574220) • Single doses of 50 to 600 µg well tolerated in healthy volunteers (PMID 41780637) • In phase 2, injection-site reactions in 19% on canvuparatide against 13% on placebo, with no related serious adverse events and no stops because of the drug (MBX Biosciences, September 22, 2025) • The release gives no figures for high blood calcium, the main risk of any PTH replacement, so that question waits for the full paper	• Not an available medicine: approved nowhere, and supplied only inside MBX Biosciences' trials • The phase 2 trial excluded people at higher risk of osteosarcoma, such as those with Paget's disease or past radiation to the skeleton (NCT06465108) • It also excluded pregnancy and breastfeeding, kidney function below an eGFR of 60, and people with calcium-sensing receptor disorders such as autosomal dominant hypocalcaemia type 1 (NCT06465108) • Other PTH drugs were stopped at least four weeks before entry (NCT06465108) • Kidney function's effect on its blood levels was studied separately (NCT06496217); no result is posted

Five questions to ask

1. Canvuparatide is listed here as "In Clinical Trials". What does the evidence on this sheet mean for someone in my situation, and is there an approved treatment I should consider instead?
2. Here are the medicines and supplements I take. Do any of them interact with Canvuparatide? This sheet records none published, which does not mean none exist.
3. Which side effects should make me stop and call you, for example injection-site reactions?

4. Do any of the cautions on this sheet apply to me, such as: Not an available medicine: approved nowhere, and supplied only inside MBX Biosciences' trials?
5. What should we check before I start and while I am on it (blood tests, blood pressure, weight), and how often?

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