BRING THIS TO YOUR DOCTOR · GREY PEPTIDES

Hemopressin (Hp)

Also called: Hemopressin; Haemopressin; Hp peptide; PVNFKFLSH

What it is

Hemopressin (Hp) is a nonapeptide (rat sequence PVNFKFLSH) cut from the alpha chain of hemoglobin and the first peptide ligand described for the CB1 cannabinoid receptor, where it is an antagonist/inverse agonist (PMID 18077343). By blocking CB1 it reduces food intake in normal and obese rodents (PMID 20505104) and relieves inflammatory and neuropathic pain (PMID 24703998), apparently acting on satiety and pain circuits without the reward effects of synthetic CB1 blockers (PMID 23542442). Its extended 'pepcan' forms (RVD-/VD-hemopressin) act differently. It is a research peptide and CB1 lead, not an approved medicine, and has never been given to people as a treatment.

Approval status

Research Chemical. Not a drug: Drugs@FDA and the openFDA label endpoint hold no record, and FDA GSRS and ChEMBL hold no substance record for hemopressin (searched November 6, 2026). It is a hemoglobin-derived peptide; there is no therapeutic development of hemopressin itself, and no registered interventional trial of giving it to people. It is studied as the first peptide CB1 ligand and an anti-obesity/analgesic lead, which remain preclinical.

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

No established human dose

Hemopressin is a hemoglobin-derived peptide that has never been given to people as a treatment. The work is in animals and cells, where hemopressin is given orally or by injection at experimental amounts that do not carry over to people.

Educational information, not medical advice. 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

No human study is carded on the page; its 6 study cards are reviews, animal or cell work. The first 2:

• **Hemopressin is a CB1 inverse agonist (discovery)** (In Vitro, 2007). Screening endogenous peptides for CB1 ligands identified hemopressin (PVNFKFLSH) as a peptide that selectively binds CB1 but not CB2 or other family-A receptors. It is a CB1 antagonist and inverse agonist — blocking signalling and damping the receptor's constitutive activity as well as rimonabant — and in rodent pain models it was antinociceptive by intrathecal, intraplantar and oral routes. The first peptide ligand for CB1, with analgesic potential (a receptor pharmacology study). **PMID 18077343**

• **Hemopressin peptides as endocannabinoid modulators** (Review, 2016). A review of hemopressin and its N-terminally extended forms (VD- and RVD-hemopressin) as modulators of the endocannabinoid system. Hemopressin, cut from the hemoglobin alpha chain, acts as a negative modulator of CB1 with antinociceptive, hypophagic and hypotensive effects, though the review notes the debate over whether it is a genuine neuromodulator or a degradation fragment of the longer RVD-hemopressin formed during extraction — and surveys therapeutic prospects for the family. **PMID 27748182**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 6, 2026, 6 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
• No human adverse-event data exist: no published study has administered hemopressin to people • In animals it reduces food intake without obvious side effects and, unlike synthetic CB1 blockers, appears to spare reward circuits (PMIDs 20505104, 23542442) — a preclinical signal, not a human safety profile • As a CB1 inverse agonist it is in the same pharmacological class as rimonabant, which was withdrawn for psychiatric side effects — a reason hemopressin's reward-sparing profile is studied carefully • Material sold online as 'hemopressin' is an unregulated research chemical of unverified content	• Not a medicine: no FDA application or label, and no approval anywhere • No human dosing, interaction, pregnancy or long-term safety data exist for administered hemopressin • It is a laboratory research peptide, not a treatment • Its CB1-blocking class (rimonabant-like) warrants caution about mood/psychiatric effects in any use

Five questions to ask

1. Hemopressin (Hp) is listed here as "Research Chemical". 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 Hemopressin (Hp)? This sheet records none published, which does not mean none exist.
3. Which side effects should make me stop and call you, for example no human adverse-event data exist: no published study has administered hemopressin to people?
4. Do any of the cautions on this sheet apply to me, such as: Not a medicine: no FDA application or label, and no approval anywhere?
5. What should we check before I start and while I am on it (blood tests, blood pressure, weight), and how often?

Grey Peptides is a vendor-neutral encyclopedia: it sells nothing and names no seller. This sheet is educational, not medical advice, and is not a prescription.