Adrenorphin (Metorphamide)

Also called: Metorphamide; Adrenorphin; Metorphamide/Adrenorphin

What it is

Adrenorphin, also called metorphamide, is an endogenous amidated opioid octapeptide (Tyr-Gly-Gly-Phe-Met-Arg-Arg-Val-NH2) cleaved from proenkephalin A and isolated in 1983 (PMID 6316361). It is the only natural opioid peptide with high mu-opioid receptor affinity, and in animals it produces naloxone-reversible analgesia and respiratory depression (PMID 4000426). It is an endogenous research peptide, 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 drug record for adrenorphin or metorphamide (searched November 7, 2026). It is an endogenous opioid peptide from proenkephalin A, studied in neuroscience; there is no therapeutic development and no registered interventional trial of giving it to people. 'Adrenorphin' and 'metorphamide' are two names for the same peptide.

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

No established human dose

Adrenorphin (metorphamide) is a peptide the body makes; it has never been given to people as a treatment. The work is in animals and tissue, where synthetic peptide is injected into the brain or spinal space 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:

• **Discovery: isolation, structure and opioid activity of metorphamide** (In Vitro, 1983). An amidated opioid octapeptide, Tyr-Gly-Gly-Phe-Met-Arg-Arg-Val-NH2, was purified from bovine caudate nucleus, sequenced, and named metorphamide. It is derived from proenkephalin by cleavage at a single arginine and C-terminal amidation, and in binding and bioassays had high mu-opioid activity (kappa ~50% of mu, delta negligible) — the only naturally occurring opioid peptide with high mu-binding activity (a discovery and characterisation study). **PMID 6316361**

• **Metorphamide shows supraspinal and spinal mu-opioid activity in vivo** (Animal, 1985). Synthetic metorphamide injected into the brain ventricles or the spinal intrathecal space inhibited reflex contractions of the rat urinary bladder; the effect was reversed by naloxone but not by a delta-opioid antagonist, and comparison with other proenkephalin-A fragments indicated the activity was the peptide's own — evidence of potent in-vivo mu-opioid, not delta, activity (a preclinical result). **PMID 3839922**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 7, 2026, 1 record) 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 adrenorphin/metorphamide to people • In animals it is a mu-opioid agonist, producing analgesia and — at higher doses — respiratory depression (PMID 4000426), the characteristic and potentially dangerous opioid effect • As a mu-opioid, the class risks of tolerance, dependence and sedation would be expected concerns — a mechanistic inference, not human data for this peptide • Material sold online as 'adrenorphin' or 'metorphamide' 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 adrenorphin • It is an endogenous research peptide, not a treatment • Its mu-opioid activity (including respiratory depression in animals) warrants caution about opioid effects in any use

Five questions to ask

1. Adrenorphin (Metorphamide) 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 Adrenorphin (Metorphamide)? 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 adrenorphin/metorphamide 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.