Neuromedin S

Also called: NMS; Neuromedin-S

What it is

Neuromedin S is a 33-residue human neuropeptide that shares its amidated tail and its receptors, NMUR1 and NMUR2, with neuromedin U (PMIDs 36687043, 19324999); it was named for the suprachiasmatic nucleus, where its gene is most active in the brain (PMID 15635449). Injected into rodent brains it reduces eating (PMIDs 15976061, 19324999), releases vasopressin and oxytocin (PMIDs 17645872, 18675786) and speeds the heart (PMID 21356261). In people it has only been found in tissue: heart muscle (PMID 18987052), placenta and decidua (PMID 27512149) and the brain's clock (PMID 41720090). It has never been given to people.

Approval status

Research Chemical. Not a medicine: an endogenous neuropeptide studied in animals and found in human tissue. Drugs@FDA (openFDA) returns no record for neuromedin S and ClinicalTrials.gov lists no study of it (November 3, 2026).

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

No established human dose

Neuromedin S has not been given to people in any study on this page. The human evidence is measurement in tissue only: the peptide identified in heart muscle and tested on donated vein rings, found in term placenta and in decidua from preterm births, and its gene mapped in the human brain's clock.

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

The 2 human studies carded on the page (29 study cards in all):

• **Placenta, infection and preterm labour** (Human, 2016). Neuromedin S and neuromedin U contracted mouse uterus in the dish and brought on labour in pregnant mice through NMU-R2. In human placenta at term the peptide sat mainly in cytotrophoblast cells, bacterial endotoxin raised it sharply in cultured human cytotrophoblasts, and decidua from women with signs of infection who delivered early held more of it than decidua from women without infection. Knocking the receptor down in mice prevented endotoxin-triggered preterm birth. **PMID 27512149**

• **Morning types in a human brain atlas** (Human, 2026). A spatial and single-cell gene atlas of the adult human suprachiasmatic nucleus sorted its neurons into seven types and found that the human clock's neuropeptide network has been reorganised compared with the mouse's. Combining the atlas with genome-wide association data pointed to a vasopressin and neuromedin S neuron type as a likely cellular basis for being a morning person. This measured gene activity in brain tissue; nobody was given the peptide. **PMID 41720090**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 3, 2026, 2 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
• Reduced eating and slower stomach emptying in rats and mice (PMIDs 15976061, 20352600) • Raised stress hormones, more grooming and anxiety-like behaviour in rats (PMID 17900576) • Faster heart rate in mice through the sympathetic nerves (PMID 21356261) • Raised vasopressin with less urine in rats (PMID 17645872) • No study read gave neuromedin S to a person, so its human safety is unknown	• Not a medicine: no neuromedin S product is approved or has been tested in people • It shares both receptors with neuromedin U, so its effects are not confined to one system (PMID 19324999) • It constricted human vein tissue in the laboratory, though less than neuromedin U (PMID 18987052) • It sticks to lab plastics and is hard to measure accurately in samples (PMID 36868028) • Any material sold as neuromedin S is outside a regulated supply, so its identity and amount are unverified (1 more on the page)

Five questions to ask

1. Neuromedin S 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 Neuromedin S? This sheet records none published, which does not mean none exist.
3. Which side effects should make me stop and call you, for example reduced eating and slower stomach emptying in rats and mice?
4. Do any of the cautions on this sheet apply to me, such as: Not a medicine: no neuromedin S product is approved or has been tested in people?
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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