

PRODUCT INFORMATION



Neuromedin U-25 (human) (trifluoroacetate salt)

Item No. 17617

Formal Name: L-phenylalanyl-L-arginyl-L-valyl-L- α -aspartyl-L- α -glutamyl-L- α -glutamyl-L-phenylalanyl-L-glutamyl-L-seryl-L-prolyl-L-phenylalanyl-L-alanyl-L-seryl-L-glutamyl-L-seryl-L-arginylglycyl-L-tyrosyl-L-phenylalanyl-L-leucyl-L-phenylalanyl-L-arginyl-L-prolyl-L-arginyl-L-aspartamide, trifluoroacetate salt
NMU-25

Phe—Arg—Val—Asp—Glu—Glu—Phe—Gln—Ser—
Pro—Phe—Ala—Ser—Gln—Ser—Arg—Gly—Tyr—
Phe—Leu—Phe—Arg—Pro—Arg—Asn—NH₂

Synonym:

NMU-25

MF: C₁₄₁H₂₀₃N₄₁O₃₈ • XCF₃COOH

• XCF₃COOH

FW: 3,080.4

Purity: ≥95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Neuromedin U-25 (human) (trifluoroacetate salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the neuromedin U-25 (human) (trifluoroacetate salt) in the solvent of choice. Neuromedin U-25 (human) (trifluoroacetate salt) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of neuromedin U-25 (human) (trifluoroacetate salt) in these solvents is approximately 1 and 5 mg/ml, respectively.

Description

Neuromedin U (NMU) is a neuropeptide first demonstrated to drive smooth muscle contraction.¹ Translated as a 174 amino acid propeptide, NMU is cleaved to different lengths in different animals. It has diverse receptor-mediated roles *in vivo*, as it regulates feeding, vasoconstriction, nociception, and bone remodeling and contributes to obesity, cancer and septic shock.^{1,2} NMU-25 is the active form of NMU in humans. It binds with high affinity to receptors on human left ventricle and coronary artery (K_{DS} = 0.26 and 0.11 nM, respectively), eliciting endothelium-independent vasoconstriction.³ NMU-25 also suppresses glucose-stimulated insulin secretion in human islets, and this effect is lost in NMU R165W mutants, resulting in early-onset obesity.⁴

References

1. Mitchell, J.D., Maguire, J.J., and Davenport, A.P. Emerging pharmacology and physiology of neuromedin U and the structurally related peptide neuromedin S. *Br. J. Pharmacol.* **158**(1), 87-103 (2009).
2. Greenwood, H.C., Bloom, S.R., and Murphy, K.G. Peptides and their potential role in the treatment of diabetes and obesity. *Rev. Diabet. Stud.* **8**(3), 355-368 (2011).
3. Mitchell, J.D., Maguire, J.J., Kuc, R.E., *et al.* Expression and vasoconstrictor function of anorexigenic peptides neuromedin U-25 and S in the human cardiovascular system. *Cardiovasc. Res.* **81**(2), 353-361 (2009).
4. Alfa, R.W., Park, S., Skelly, K.R., *et al.* Suppression of insulin production and secretion by a decretin hormone. *Cell Metab.* **21**(2), 323-333 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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