

PRODUCT INFORMATION



Neuromedin U-23 (rat) (trifluoroacetate salt)

Item No. 34430

Formal Name:	L-tyrosyl-L-lysyl-L-valyl-L-asparaginyl-L- α -glutamyl-L-tyrosyl-L-glutamylglycyl-L-prolyl-L-valyl-L-alanyl-L-prolyl-L-serylglycylglycyl-L-phenylalanyl-L-phenylalanyl-L-leucyl-L-phenylalanyl-L-arginyl-L-prolyl-L-arginyl-L-aspartamide, trifluoroacetate salt	H-Tyr-Lys-Val-Asn-Glu-Tyr-Gln-Gly-Pro-Val-Ala-Pro-Ser-Gly-Gly-Phe-Phe-Leu-Phe-Arg-Pro-Arg-Asn-NH ₂
Synonym:	NMU-23	
MF:	C ₁₂₄ H ₁₈₀ N ₃₄ O ₃₁ • XCF ₃ COOH	
FW:	2,643.0	• XCF ₃ COOH
Purity:	≥98%	
Supplied as:	A solid	
Storage:	-20°C	
Stability:	≥2 years	

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

Laboratory Procedures

Neuromedin U-23 (rat) (NMU-23) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the NMU-23 (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. NMU-23 (trifluoroacetate salt) is soluble in organic solvents such as ethanol and DMSO. The solubility of NMU-23 (trifluoroacetate salt) in these solvents is approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of NMU-23 (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of NMU-23 (trifluoroacetate salt) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

NMU-23 is a neuropeptide involved in diverse biological processes, including smooth muscle contraction, energy homeostasis, and nociception.¹ It is an agonist of neuromedin-U receptor 1 (NMUR1; EC₅₀ = 0.17 nM for the human receptor in a calcium mobilization assay using HEK293 cells) and NMUR2 (EC₅₀ = ~1.4-2 nM for arachidonic acid release in CHO cells expressing the human receptor).^{2,3} NMU-23 (1 μ M) induces contractions in isolated rat colon smooth muscle strips.⁴ It decreases body weight and food intake and increases core body temperature in mice when administered at a dose of 36 μ g/animal.⁵ Intrathecal administration of NMU-23 decreases the mechanical pain threshold in the von Frey test in rats.⁶

References

1. Mitchell, J.D., Maguire, J.J., and Davenport, A.P. *Br. J. Pharmacol.* **158(1)**, 87-103 (2009).
2. Szekeres, P.G., Muir, A.I., Spinage, L.D., et al. *J. Biol. Chem.* **275(27)**, 20247-20250 (2000).
3. Hosoya, M., Moriya, T., Kawamata, Y., et al. *J. Biol. Chem.* **275(38)**, 29528-29532 (2000).
4. Brighton, P.J., Wise, A., Dass, N.B., et al. *J. Pharmacol. Exp. Ther.* **325(1)**, 154-164 (2008).
5. Peier, A., Kosinski, J., Cox-York, K., et al. *Endocrinology* **150(7)**, 3101-3109 (2009).
6. Yu, X.H., Cao, C.Q., Mennicken, F., et al. *Neuroscience* **120(2)**, 467-474 (2003).

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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