

PRODUCT INFORMATION



[Lys⁵,MeLeu⁹,Nle¹⁰]-Neurokinin A (4-10) (trifluoroacetate salt)

Item No. 43051

Formal Name: L- α -aspartyl-L-lysyl-L-phenylalanyl-L-valylglycyl-N-methyl-L-leucyl-L-norleucinamide, trifluoroacetate salt

Synonyms: Asp-Lys-Phe-Val-Gly-methyl-Leu-Nle-NH₂, LMN-NKA

MF: C₃₉H₆₅N₉O₉ • XCF₃COOH

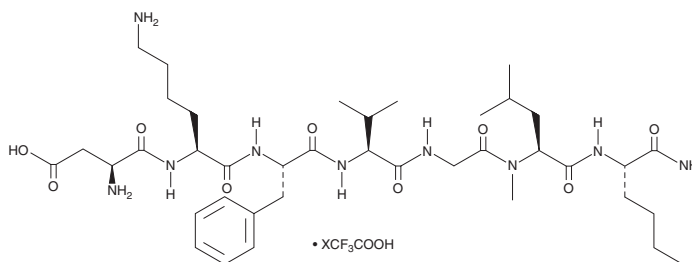
FW: 804.0

Purity: $\geq 98\%$

Supplied as: A 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

[Lys⁵,MeLeu⁹,Nle¹⁰]-Neurokinin A (4-10) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the [Lys⁵,MeLeu⁹,Nle¹⁰]-neurokinin A (4-10) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. [Lys⁵,MeLeu⁹,Nle¹⁰]-neurokinin A (4-10) (trifluoroacetate salt) is soluble (≥ 10 mg/ml) in DMSO and sparingly soluble (1-10 mg/ml) in ethanol.

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 [Lys⁵,MeLeu⁹,Nle¹⁰]-neurokinin A (4-10) (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. [Lys⁵,MeLeu⁹,Nle¹⁰]-Neurokinin A (4-10) (trifluoroacetate salt) is soluble (≥ 10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

[Lys⁵,MeLeu⁹,Nle¹⁰]-Neurokinin A (4-10) is a neurokinin-2 (NK₂) receptor agonist and derivative of neurokinin A (Item No. 24221).¹ It binds to NK₂ receptors in isolated human colon circular muscle membranes in a radioligand binding assay (IC₅₀ = 0.87 nM). [Lys⁵,MeLeu⁹,Nle¹⁰]-Neurokinin A (4-10) induces contraction of isolated rat bladder and fundus strips (EC₅₀s = 10 and 117 nM, respectively), effects that can be inhibited by the NK₂ receptor antagonists SR48968 and MEN10627.² It also induces contraction of uterine horns isolated from rats in proestrus/estrus and diestrus/metestrus (EC₅₀s = 25.12 and 51.29 nM, respectively).³ [Lys⁵,MeLeu⁹,Nle¹⁰]-Neurokinin A (4-10) induces urination and defecation in conscious dogs but also induces emesis and hypotension at similar doses.⁴

References

1. Warner, F.J., Comis, A., Miller, R.C., *et al.* Characterization of the [¹²⁵I]-neurokinin A binding site in the circular muscle of human colon. *Br. J. Pharmacol.* **127**(5), 1105-1110 (1999).
2. Matuszek, M.A., Zeng, X.-P., Strigas, J., *et al.* An investigation of tachykinin NK₂ receptor subtypes in the rat. *Eur. J. Pharmacol.* **352**(1), 103-109 (1998).
3. Moodley, N., Lau, W.A.K., Pennefather, J.N., *et al.* NK₂ receptors mediate tachykinin-induced contractions of rat uterus during the oestrous cycle. *Eur. J. Pharmacol.* **376**(1-2), 53-60 (1999).
4. Rupniak, N.M.J., Katofiasc, M., Walz, A., *et al.* [Lys⁵,MeLeu⁹,Nle¹⁰]-NKA₍₄₋₁₀₎ Elicits NK2 receptor-mediated micturition and defecation, and NK1 receptor-mediated emesis and hypotension, in conscious dogs. *J. Pharmacol. Exp. Ther.* **366**(1), 136-144 (2018).

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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