

PRODUCT INFORMATION



Substance P (1-7) (trifluoroacetate salt)

Item No. 43046

Formal Name: L-arginyl-L-prolyl-L-lysyl-L-prolyl-

L-glutamyl-L-glutamyl-L-phenylalanine, trifluoroacetate

Synonyms: Arg-Pro-Lys-Pro-Gln-Gln-Phe, SP (1-7)

Peptide Sequence: RPKPQQF-OH

MF: $C_{41}H_{65}N_{13}O_{10} \cdot XCF_3COOH$

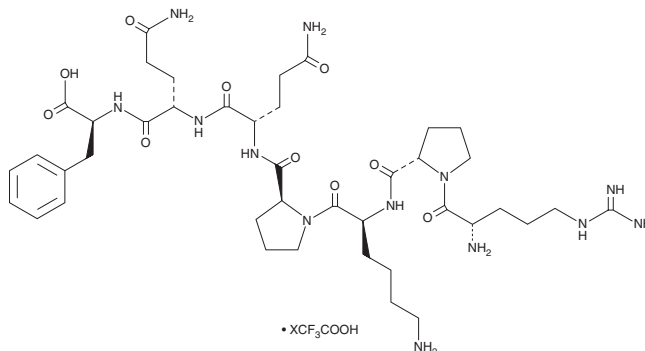
FW: 900.0

Purity: $\geq 98\%$

Supplied as: A solid

Storage: $-20^{\circ}C$

Stability: ≥ 4 years



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

Laboratory Procedures

Substance P (1-7) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the substance P (1-7) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Substance P (1-7) (trifluoroacetate salt) is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 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 substance P (1-7) (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. Substance P (1-7) (trifluoroacetate salt) is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Substance P (1-7) is a peptide fragment of the neuropeptide substance P (Item No. 24035).¹ It is produced by proteolytic cleavage of substance P by neprilysin. Substance P (1-7) (10 nM) induces internalization of the neurokinin-1 (NK_1) receptor in isolated rat striatal slices.² It inhibits substance P-induced contralateral rotation in rats and substance P-induced substantia nigra dopamine release in anesthetized rats.³ Administration of substance P (1-7) into the nucleus tractus solitarius decreases mean arterial pressure and heart rate in anesthetized rats.¹ Substance P (1-7) (1 nmol/animal) reduces withdrawal jumping in morphine-dependent mice when administered intrathecally.⁴ It increases the latency to tail-flick in the tail-flick test in streptozotocin-induced diabetic mice, an effect that can be reversed by naloxone or (+)-pentazocine but not naltrindole (Item No. 9000705), β -funaltrexamine (Item No. 39901), norbinaltorphimine, or BD 1047 (Item No. 22928).⁵ Substance P (1-7) (35 pmol/animal) increases the number of entries into and percentage of time spent in the open arms of the elevated plus maze in rats, indicating anxiolytic-like activity.⁶

References

1. Hall, M.E., Miley, F., and Stewart, J.M. *Peptides* **10**(4), 895-901 (1989).
2. Michael-Titus, A.T., Blackburn, D., Connolly, Y., et al. *Neuroreport* **13**(10), 2209-2213 (1999).
3. Herrera-Marschitz, M., Terenius, L., Sakurada, T., et al. *Brain Res.* **521**(1-2), 316-320 (1990).
4. Kreeger, J.S. and Larson, A.A. *Eur. J. Pharmacol.* **238**(1), 111-115 (1993).
5. Carlsson, A., Ohsawa, M., Hallberg, M., et al. *Eur. J. Pharmacol.* **626**(2-3), 250-255 (2010).
6. De Araújo, J.E., Huston, J.P., and Brandão, M.L. *Eur. J. Pharmacol.* **432**(1), 43-51 (2001).

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.

WARRANTY AND LIMITATION OF REMEDY

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