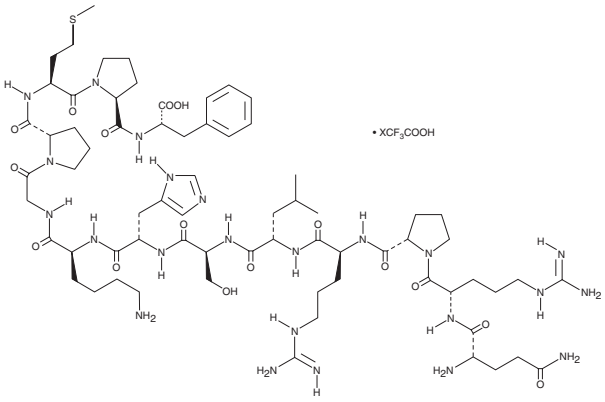
PRODUCT INFORMATION

Apelin-13 (trifluoroacetate salt)

Item No. 13523



Formal Name:	L-glutaminyl-L-arginyl-L-prolyl-L-arginyl-L-leucyl-L-seryl-L-histidyl-L-lysylglycyl-L-prolyl-L-methionyl-L-prolyl-L-phenylalanine, trifluoroacetate salt
MF:	$C_{69}H_{111}N_{23}O_{16}S \bullet XCF_3COOH$
FW:	1,550.8
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

Apelin-13 (trifluoroacetate salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the apelin-13 (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Apelin-13 (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of apelin-13 (trifluoroacetate salt) in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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 apelin-13 (trifluoroacetate salt) can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of apelin-13 (trifluoroacetate salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The apelin gene encodes a pre-proprotein that is processed to generate bioactive peptides consisting of 36, 17, or 13 amino acids (apelin-36, apelin-17, and apelin-13, respectively). Apelin-13 is the endogenous ligand of the APJ receptor, activating this G protein-coupled receptor with an EC_{50} value of 0.37 nM (the EC_{50} values for apelin-17 and apelin-36 are 2.5 and 20 nM, respectively.)[1,2] It acts primarily in the periphery and central nervous system, playing important roles in regulating cardiovascular function, fluid homeostasis, hypertension, and insulin sensitivity.[3] Unlike apelin-36, apelin-13 poorly blocks the entry of human immunodeficiency virus into cells.[4]

References

1. Tatemoto, K., Hosoya, M., Habata, Y., *et al*. *Biochem. Biophys. Res. Commun*. **251(2)**, 471-476 (1998).
2. Lee, D.K., Cheng, R., Nguyen, T., *et al*. *J. Neurochem*. **74(1)**, 34-41 (2000).
3. Kleinz, M.J. and Davenport, A.P. *Pharmacol. Ther*. **107(2)**, 198-211 (2005).
4. Zou, M.-X., Liu, H.-Y., Haraguchi, Y., *et al*. *FEBS Lett*. **473(1)**, 15-18 (2000).

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