

Urocortin III (human) (trifluoroacetate salt)

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Urocortin III is a neuropeptide hormone and member of the corticotropin-releasing factor (CRF) family which includes mammalian CRF , urocortin , urocortin II , frog sauvagine, and piscine urotensin I.
In vitro	Human urocortin III shares 90, 40, 37, and 21% identity to mouse urocortin III , mouse urocortin II , human urocortin , and mouse urocortin, respectively. Urocortin III selectively binds to type 2 CRF receptors (K _i s = 21.7, 13.5, and >100 nM for rat CRF2 α , rat CRF2 β , and human CRF1, respectively). It stimulates cAMP production in CHO cells expressing rat CRF2 α and mouse CRF2 β (EC ₅₀ s = 0.16 and 0.12 nM, respectively) as well as cultured anterior pituitary cells expressing endogenous CRF2 β . Urocortin III is co-released with insulin to potentiate glucose-stimulated somatostatin release in vitro in human pancreatic β -cells. ²
In vivo	In vivo, urocortin III reduces food intake in a dose- and time-dependent manner in mice with a minimum effective dose (MED) of 0.3 nmol/animal. ³ It increases swimming time in a forced swim test in mice, indicating antidepressant-like activity. ⁴

Solubility Information

Solubility	DMSO: 1 mg/mL, Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Reference

- Lewis, K., Li, C., Perrin, M.H., et al. Identification of urocortin III, an additional member of the corticotropin-releasing factor (CRF) family with high affinity for the CRF2 receptor. *Proc. Natl. Acad. Sci. U.S.A.* 98(13), 7570-7575 (2001).
- van der Meulen, T., Donaldson, C.J., Cáceres, E., et al. Urocortin3 mediates somatostatin-dependent negative feedback control of insulin secretion. *Nat. Med.* 21(7), 769-776 (2015).
- Pelleymounter, M.A., Joppa, M., Ling, N., et al. Behavioral and neuroendocrine effects of the selective CRF2 receptor agonists urocortin II and urocortin III. *Peptides* 25(4), 659-666 (2004).
- Tanaka, M., Kádár, K., Tóth, G., et al. Antidepressant-like effects of urocortin 3 fragments. *Brain Res. Bull.* 84(6), 414-418 (2011).

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