

PRODUCT INFORMATION



Urocortin III (mouse) (trifluoroacetate salt)

Item No. 24749

Formal Name: L-phenylalanyl-L-threonyl-L-leucyl-L-seryl-L-leucyl-L- α -aspartyl-L-valyl-L-prolyl-L-threonyl-L-asparaginyl-L-isoleucyl-L-methionyl-L-asparaginyl-L-isoleucyl-L-leucyl-L-phenylalanyl-L-asparaginyl-L-isoleucyl-L- α -aspartyl-L-lysyl-L-alanyl-L-lysyl-L-asparaginyl-L-leucyl-L-arginyl-L-alanyl-L-lysyl-L-alanyl-L-alanyl-L-alanyl-L-asparaginyl-L-alanyl-L-glutamyl-L-leucyl-L-methionyl-L-alanyl-L-glutamyl-L-isoleucinamide, 2,2,2-trifluoroacetate
MF: $C_{186}H_{312}N_{52}O_{52}S_2 \cdot XCF_3COOH$
FW: 4,173.0
Purity: $\geq 95\%$
Supplied as: A lyophilized powder
Storage: $-20^\circ C$
Stability: ≥ 4 years

H-Phe-Thr-Leu-Ser-Leu-Asp-Val-Pro-Thr-Asn-Ile-Met-Asn-Ile-Leu-Phe-Asn-Ile-Asp-Lys-Ala-Lys-Asn-Leu-Arg-Ala-Lys-Ala-Ala-Ala-Asn-Ala-Gln-Leu-Met-Ala-Gln-Ile-NH₂

• XCF₃COOH

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

Laboratory Procedures

Urocortin III (mouse) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the urocortin III (mouse) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Urocortin III (mouse) (trifluoroacetate salt) is soluble in the organic solvent DMSO at a concentration of approximately 1 mg/ml.

Description

Urocortin III is a neuropeptide hormone and member of the corticotropin-releasing factor (CRF) family which includes mammalian CRF, urocortin (Item No. 24745), urocortin II (Item No. 24746), frog sauvagine, and piscine urotensin.¹ Mouse urocortin III shares 90, 40, 37, and 18% identity to human urocortin III (Item No. 24748), mouse urocortin II (Item No. 24747), human urocortin (Item No. 24744), and mouse urocortin, respectively. It is expressed in the hypothalamus, brainstem, lateral septum (LS)/bed nucleus of stria terminalis (BnST) in the CNS and the small intestine, pancreatic β -cells, and skin in the periphery in mice. Urocortin III selectively binds to type 2 CRF receptors ($K_s = 5, 1.8, \text{ and } >100 \text{ nM}$ for rat CRF_{2 α} , rat CRF_{2 β} , and human CRF₁, respectively). It stimulates cAMP production in CHO cells expressing rat CRF_{2 α} and mouse CRF_{2 β} ($EC_{50} = 0.073 \text{ and } 0.08 \text{ nM}$, respectively) as well as in cultured anterior pituitary cells expressing endogenous CRF_{2 β} . *In vivo*, urocortin III (2 μg , i.p.) accelerates metamorphosis of *S. hammondi* tadpoles.² Urocortin III (20 μg , i.c.v.) increases exploration in the open field test and decreases latency to enter the lit compartment in the dark-light emergence test in mice, indicating anxiolytic-like activity, and mRNA expression is increased in mouse brain in response to restraint.³ It is co-released with insulin to potentiate glucose-stimulated somatostatin release *in vitro* and *in vivo* in wild-type mice, however, it is depleted from β -cells in mouse and macaque models of type 2 diabetes, suggesting a role in glycemic control.⁴

References

1. Lewis, K., Li, C., Perrin, M.H., et al. *Proc. Natl. Acad. Sci. U.S.A.* **98**(13), 7570-7575 (2001).
2. Okada, R., Miller, M.F., Yamamoto, K., et al. *Gen. Comp. Endocrinol.* **150**(3), 437-444 (2007).
3. Venihaki, M., Sakihara, S., Subramanian, S., et al. *J. Neuroendocrinol.* **16**(5), 411-422 (2004).
4. van der Meulen, T., Donaldson, C.J., Cáceres, E., et al. *Nat. Med.* **21**(7), 769-776 (2015).

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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