Product Data Sheet

Product Name: Urocortin III, mouse
Cat. No.: GC37869

Chemical Properties

Cas. No.	357952-10-4		
Formula	$C_{186}H_{312}N_{52}O_{52}S_2$	M.Wt	4172.97
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Urocortin III, mouse		

Background

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.[1] Mouse urocortin III shares 90, 40, 37, and 18% identity to human urocortin III , mouse urocortin II , human urocortin , 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_is = 5, 1.8, and >100 nM for rat $CRF_{2\alpha}$, rat $CRF_{2\beta}$, and human CRF_1, respectively). It stimulates cAMP production in CHO cells expressing rat $CRF_{2\alpha}$ and mouse $CRF_{2\beta}$ (EC_{50}s = 0.073 and 0.08 nM, respectively) as well as in cultured anterior pituitary cells expressing endogenous $CRF_{2\beta}$. *In vivo*, urocortin III (2 µg, i.p.) accelerates metamorphosis of *S. hammondii* 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

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diabetes, suggesting a role in glycemic control.[4]

1.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 receptorProc. Natl. Acad. Sci. USA98(13)7570-7575(2001) 2.Okada, R., Miller, M.F., Yamamoto, K., et al.Involvement of the corticotropin-releasing factor (CRF) type 2 receptor in CRF-induced thyrotropin release by the amphibian pituitary glandGen. Comp. Endocrinol.150(3)437-444(2007) 3.Sadhu, C., Dick, K., Tino, W.T., et al.Selective role of PI3Kδ in neutrophil inflammatory responsesBiochem. Biophys. Res. Commun.308(4)764-769(2003) 4.van der Meulen, T., Donaldson, C.J., Cáceres, E., et al.Urocortin3 mediates somatostatin-dependent negative feedback control of insulin secretionNat. Med.21(7)769-776(2015)