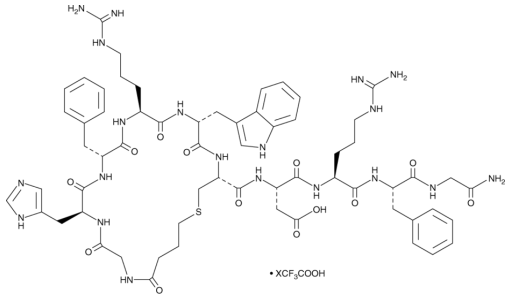
Product Data Sheet

Product Name: MSG606 (trifluoroacetate salt)
Cat. No.: GC92099

Chemical Properties

Cas. No.			
Chemical Name	N-(4-mercapto-1-oxobutyl)glycyl-L-histidyl-D-phenylalanyl-L-arginyl-D-tryptophyl-L-cysteinyl-L-α-aspartyl-L-arginyl-L-phenylalanyl-glycinamide, cyclic (1→6)-thioether, trifluoroacetate salt		
SMILES	O=C([C@@H](NC([C@H](NC([C@@H](NC(CNC(CCCSC[C@H](NC1=O)C(N[C@@H](CC(O)=O)C(N[C@@H](CCCNC(N)=N)C(N[C@H](C(NCC(N)=O)=O)CC2=CC=CC=C2)=O)=O)=O)=O)=O)CC3=CN=CN3)=O)CC4=CC=CC=C4)=O)CCCNC(N)=N)N[C@@H]1CC5=CNC6=CC=CC=C56.O=C(O)C(F)(F)F		
Formula	$C_{62}H_{82}N_{20}O_{13}S$? XCF_3COOH	M.Wt	1347.5
Solubility	Acetonitrile: Slightly soluble: 0.1-1 mg/ml,DMSO: Sparingly soluble: 1-10 mg/ml,Water: Slightly soluble: 0.1-1 mg/ml	Storage	-20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C 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			

Background

MSG606 is a peptide antagonist of melanocortin receptor 1 (MC1R; IC_{50} = 17 nM for the human

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receptor) and a derivative of γ-melanocyte-stimulating hormone (γ-MSH).[1] It selectively binds to MC1R over MC3R and MC5R (IC_{50}s = 3,900 and 1,000 nM, respectively, for the human receptors), as well as MC4R at 10 ?M. Intracerebroventricular administration of MSG606 (7.5 ?g/animal) increases the latency to tail withdrawal in the tail-flick test in female, but not male, mice in a model of opioid-induced hyperalgesia.[2] MSG606 (1 nmol/animal, i.c.v.) reduces levels of the tumor suppressor protein merlin in the cortex, reduces the number of surviving neurons in the cortex and hippocampal CA2 region, and increases the number of apoptotic cells in the cortex in rats 24 hours after injury in a model of controlled cortical impact-induced traumatic brain injury (TBI).[3]

References:

[1]. Cai, M., Stankova, M., Muthu, D., et al.An unusual conformation of γ-melanocyte-stimulating hormone analogues leads to a selective human melanocortin 1 receptor antagonist for targeting melanoma cellsBiochemistry52(4)752-764(2013).
[2]. Juni, A., Cai, M., Stankova, M., et al.Sex-specific mediation of opioid-induced hyperalgesia by the melanocortin-1 receptorAnesthesiology112(1)181-188(2010).
[3]. Lu, J., Wang, J., Ni, H., et al.Activation of the melanocortin-1 receptor attenuates neuronal apoptosis after traumatic brain injury by upregulating Merlin expressionBrain Res. Bull.207:110870(2024).