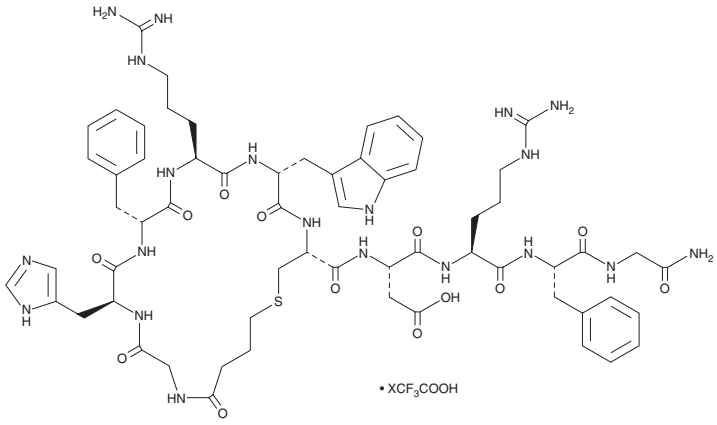
PRODUCT INFORMATION

MSG606 (trifluoroacetate salt)

Item No. 41550

Formal 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
Synonym:	cyclo(CH_2)$_3$CO-Gly-His-D-Phe-Arg-D-Trp-Cys)-Asp-Arg-Phe-Gly-NH_2
Peptide Sequence:	c(XGHfRwC)DRFG-NH_2 (where X = C_3H_6-CO)
MF:	$C_{62}H_{82}N_{20}O_{13}S \bullet XCF_3COOH$
FW:	1,347.5
Purity:	≥95%
Supplied as:	A 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

MSG606 (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the MSG606 (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. MSG606 (trifluoroacetate salt) is slightly soluble (0.1-1 mg/ml) in acetonitrile and DMSO.

MSG606 (trifluoroacetate salt) is slightly soluble (0.1-1 mg/ml) in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

MSG606 is a peptide antagonist of melanocortin receptor 1 (MC1R; IC_{50} = 17 nM for the human 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 µM. Intracerebroventricular administration of MSG606 (7.5 µg/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. Biochemistry* **52(4)**, 752-764 (2013).
2. Juni, A., Cai, M., Stankova, M., *et al. Anesthesiology* **112(1)**, 181-188 (2010).
3. Lu, J., Wang, J., Ni, H., *et al. Brain Res. Bull.* **207:110870**, (2024).

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