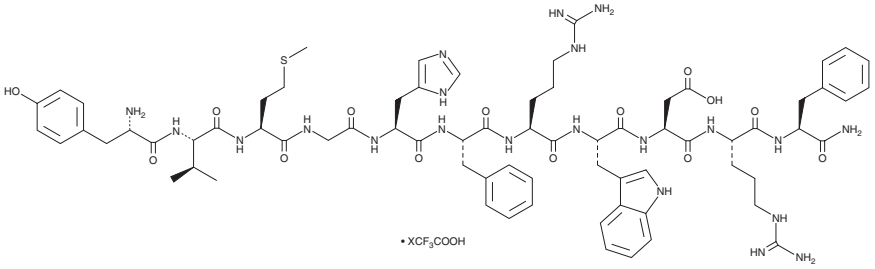
PRODUCT INFORMATION

γ_1-MSH (human, mouse, rat, bovine) (trifluoroacetate salt)

Item No. 41554

Formal Name:	L-tyrosyl-L-valyl-L-methionylglycyl-L-histidyl-L-phenylalanyl-L-arginyl-L-tryptophyl-L-α-aspartyl-L-arginyl-L-phenylalaninamide, trifluoroacetate salt
Synonym:	γ_1-Melanocyte-stimulating Hormone
Peptide Sequence:	YVMGHFRWDRF-NH_2
MF:	$C_{72}H_{97}N_{21}O_{14}S \bullet XCF_3COOH$
FW:	1,512.7
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

γ_1-Melanocyte-stimulating hormone (γ_1-MSH) (human, mouse, rat, bovine) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the γ_1-MSH (human, mouse, rat, bovine) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. γ_1-MSH (human, mouse, rat, bovine) (trifluoroacetate salt) is soluble (≥10 mg/ml) in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of γ_1-MSH (human, mouse, rat, bovine) (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. γ_1-MSH is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

γ_1-MSH is a peptide hormone produced by post-translational processing of proopiomelanocortin (POMC) in the pituitary gland.[1] It selectively binds to melanocortin receptor 1 (MC1R) and MC3R over MC4R and MC5R (K_is = 0.025, 0.063, >100, and >100 µM, respectively, in insect cells expressing the human receptors) but also binds to opioid receptors in rat brain tissue homogenates (IC_{50} = 5.9 µM).[1,2] γ_1-MSH (10 µM) inhibits contractions induced by the neuropeptide FMRF-amide in isolated *M. edulis* catch muscle.[4] Intracisternal administration of γ_1-MSH (0.3 nmol/animal) increases the latency to tail flick in the tail-flick test and inhibits haloperidol-induced catalepsy in mice.[5] γ_1-MSH (0.01 nmol/animal) also inhibits LPS-induced nitric oxide (NO) release in mouse forebrain *in vivo*.[2]

References

1. Rubakhin, S.S., Churchill, J.D., Greenough, W.T., *et al. Anal. Chem.* **78(20)**, 7267-7272 (2006).
2. Muceniece, R., Zvejniece, L., Liepinsh, E., *et al.* Peptides **27(6)**, 1443-1450 (2006).
3. Oki, S., Nakao, K., Nakai, Y., *et al. Eur. J. Pharmacol.* **64(2-3)**, 161-164 (1980).
4. Muneoka, Y. and Saitoh, H. *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* **85(1)**, 207-214 (1986).
5. Klusa, V., Germane, S., Svirskis, S., *et al. Neuropeptides* **35(1)**, 50-57 (2001).

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