

## Product Data Sheet

Product Name: MSH Release-Inhibiting Factor (trifluoroacetate salt)

Cat. No.: GC91914

### Chemical Properties

Cas. No.

Chemical Name L-prolyl-L-leucyl-glycinamide, trifluoroacetate salt

SMILES O=C([C@@H](NC([C@H]1NCCC1)=O)CC(C)C)NCC(N)=O.FC(F)(C(O)=O)F

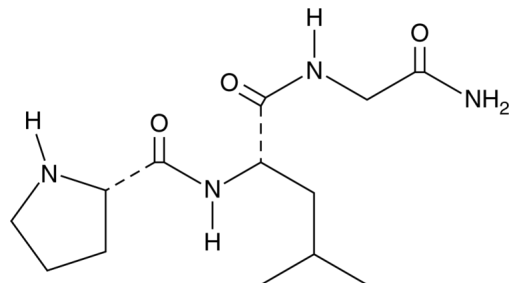
Formula  $C_{13}H_{24}N_4O_3 \cdot XCF_3COOH$  M.Wt 284.4

Solubility Water: 1 mg/ml Storage  $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at  $37^{\circ}C$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^{\circ}C$  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



•  $XCF_3COOH$

### Background

MSH release-inhibiting factor (MSH-R-IF) is a hypothalamic tripeptide that binds to rat striatum ( $K_d = 4.69$  nM) and has diverse biological activities.<sup>1,2,3,4</sup> *In vivo*, MSH-R-IF (0.1 mg/kg) decreases immobility of mice in the forced swim test, indicating antidepressant-like activity.<sup>2</sup> MSH-R-IF (20 mg/kg) increases striatal concentration of dopamine and the dopamine metabolites DOPAC, 3-methoxy tyramine (3-MT), and homovanillic acid (HVA) in a mouse model of Parkinson's disease induced by MPTP.<sup>3</sup> It decreases vacuous chewing movements induced by haloperidol in a rat model

**Caution: Product has not been fully validated for medical applications. For research use only.**

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of tardive dyskinesia when administered at a dose of 2 mg/kg.<sup>4</sup> MSH-R-IF also has anti-opiate effects, reversing analgesia induced by morphine and an enkephalin in mice in a radiant heat tail-flick assay.<sup>1</sup>

### References:

- [1]. Pan, W., and Kastin, A.J. From MIF-1 to endomorphin: The Tyr-MIF-1 family of peptides. *Peptides* 28(12):2411-2434 (2007).
- [2]. Kastin, A.J., Abel, D.A., Ehrensing, R.H., et al. Tyr-MIF-1 and MIF-1 are active in the water wheel test for antidepressant drugs. *Pharmacol. Biochem. Behav.* 21(5):767-771 (1984).
- [3]. Marcotte, E.R., Chugh, A., Mishra, R.K., et al. Protection against MPTP treatment by an analog of Pro-Leu-Gly-NH<sub>2</sub> (PLG, MIF-1). *Peptides* 19(2):403-406 (1998).
- [4]. Sharma, S., Paladino, P., Gabriele, J., et al. Pro-Leu-glycinamide and its peptidomimetic, PAOPA, attenuate haloperidol induced vacuous chewing movements in rat: A model of human tardive dyskinesia. *Peptides* 24(2):313-319 (2003).

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