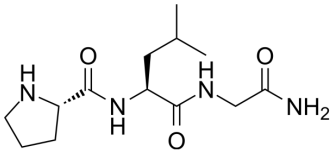
MIF-1

Cat. No.:	HY-107663
CAS No.:	2002-44-0
Molecular Formula:	$C_{13}H_{24}N_4O_3$
Molecular Weight:	284.35
Target:	Dopamine Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

MIF-1 (Melanostatin), an endogenous brain peptide, is a potent dopamine receptor allosteric modulator. MIF-1 inhibits melanin formation. MIF-1 blocks the effects of opioid receptor activation to modulate the analgesic effects. MIF-1 accesses from the blood to the CNS by directly crossing the blood-brain barrier (BBB)[1][2][3].

In Vitro

MIF-1 (Melanostatin, 1 μM) provokes a reversible hyperpolarization and a suppression of spontaneous action potentials[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

MIF-1 (Melanostatin, 1 mg/kg; i.p.; once, for 1 hour; male Wistar rats) modulates the analgesic effects and stress-induced analgesia (SIA)[1].

MIF-1 (Melanostatin, 1 mg/kg; i.p.; daily, for 8 weeks; Sprague-Dawley rats) attenuates spiroperidol-induced impairment of development of striatal dopamine D2 receptors in rats[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Wistar rats[1]
Dosage:	1 mg/kg
Administration:	Intraperitoneal injection; once, for 1 hour
Result:	Decreased the analgesic effect. Increased the pain threshold for at least 1 h.

Animal Model:	Sprague-Dawley rats[3]
Dosage:	1 mg/kg
Administration:	Intraperitoneal injection; daily, for 8 weeks
Result:	Attenuated the ontogenic impairment of striatal D2 receptors that was produced by spiroperidol (HY-B1371) treatment.

REFERENCES

[1]. Bocheva A, et, al. Antiopioid properties of the TYR-MIF-1 family. Methods Find Exp Clin Pharmacol. 2004 Nov;26(9):673-7.

[2]. Valentijn JA, et, al. Melanostatin (NPY) inhibited electrical activity in frog melanotrophs through modulation of K+, Na+ and Ca2+ currents. J Physiol. 1994 Mar 1;475(2):185-95.

[3]. Saleh MI, et, al. MIF-1 attenuates spiroperidol alteration of striatal dopamine D2 receptor ontogeny. Peptides. 1989 Jan-Feb;10(1):35-9.

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