α-MSH

Cat. No.: HY-P0252

CAS No.: 581-05-5

Molecular Formula: $C_{77}H_{109}N_{21}O_{19}S$

Molecular Weight: 1664.88

Sequence: Ac-Ser-Tyr-Ser-Met-Glu-His-Phe-Arg-Trp-Gly-Lys-Pro-Val-NH2

Sequence Shortening: Ac-SYSMEHFRWGKPV-NH2

Target: Melanocortin Receptor

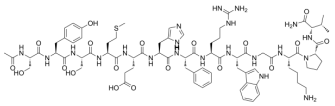
Pathway: GPCR/G Protein; Neuronal Signaling

Storage: Sealed storage, away from moisture

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 25 mg/mL (15.02 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.6006 mL	3.0032 mL	6.0064 mL
	5 mM	0.1201 mL	0.6006 mL	1.2013 mL
	10 mM	0.0601 mL	0.3003 mL	0.6006 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

α-MSH (α-Melanocyte-Stimulating Hormone), an endogenous neuropeptide, is an endogenous melanocortin receptor 4 (MC4R) agonist with anti-inflammatory and antipyretic activities. α-MSH is a post-translational derivative of pro-opiomelanocortin (POMC)[1][2].

IC_{50} & Target

MC4R

In Vitro

α-MSH modulates CNS inflammation by acting directly on melanocortin receptors in glial cells. α-MSH modulates NFκB activation. α-MSH inhibits translocation of transcription factor κB to the nucleus[3].

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

In Vivo

α-MSH (50 μg/0.2 ml saline; i.p.) given systemically effectively modulates inflammatory reactions[3].

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

Animal Model:	IL-10–deficient mice[3]
Dosage:	50 μg/0.2 ml saline
Administration:	I.p.
Result:	Given systemically effectively modulated inflammatory reactions.

CUSTOMER VALIDATION

- Free Radic Biol Med. 2021 Sep 21;S0891-5849(21)00737-1.
- Stem Cell Res Ther. 2021 Sep 10;12(1):501.
- Antioxidants (Basel). 2022, 11(7), 1317.
- Blood Adv. 2023 Mar 15;bloodadvances.2022009249.
- J Cosmet Dermatol. 2023 Jun 8.

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REFERENCES

[1]. Madhuri Singh, et al. C-terminal amino acids of alpha-melanocyte-stimulating hormone are requisite for its antibacterial activity against Staphylococcus aureus. Antimicrob Agents Chemother. 2011 May;55(5):1920-9.

[2]. M S Kim, et al. Hypothalamic localization of the feeding effect of agouti-related peptide and alpha-melanocyte-stimulating hormone. Diabetes. 2000 Feb;49(2):177-82.

[3]. Lipton JM, et al. Mechanisms of antiinflammatory action of alpha-MSH peptides. In vivo and in vitro evidence. Ann N Y Acad Sci. 1999;885:173-182.

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