Melanotan I

Cat. No.: HY-N2466

CAS No.: 75921-69-6

Molecular Formula: $C_{78}H_{111}N_{21}O_{19}$

Molecular Weight: 1646.85

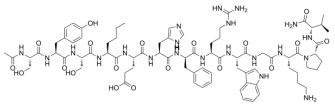
Sequence: Ac-Ser-Tyr-Ser-{Nle}-Glu-His-{d-Phe}-Arg-Trp-Gly-Lys-Pro-Val-NH2

Sequence Shortening: Ac-SYS-{Nle}-EH-{d-Phe}-RWGKPV-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 : ≥ 50 mg/mL (30.36 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.6072 mL	3.0361 mL	6.0722 mL
5 mM	0.1214 mL	0.6072 mL	1.2144 mL
10 mM	0.0607 mL	0.3036 mL	0.6072 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (60.72 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Melanotan I is a potent non-selective melanocortin receptor (MCR) agonist. Melanotan I is a synthetic analogue of α-melanocyte stimulating hormone (α-MSH) that stimulates melanogenesis. Melanotan I can induce skin tanning by mimicking the actions of a-MSH on the melanocortin type 1 receptors (MC1R) of melanocytes. Melanotan I can be used for the research of sun-induced skin cancer, melanoma, inflammation and male erectile dysfunction[1][2][3][4].

IC_{50} & Target

MC1R

In Vitro

Melanotan I (1 μM, 72 h) does not alter or slightly inhibit the formation of tumor colonies, and inhibits melanoma cell

proliferation in vitro[3].

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

In Vivo

Melanotan I (2 mg/kg/dayfor 12 weeks, s.c.) has no acute toxic effect in rodents[2].

Melanotan I (2/10 mg/kg, s.c.) does not increase tumor incidence of human melanoma in SCID (immunodeficient) mice, nor does it lead to malignant transformation of tumors, and does not exhibit cancer-promoting effects. [3].

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

Animal Model:	rats[2]
Dosage:	0.6 mg/kg/day for 30 days
Administration:	s.c.
Result:	Well tolerated with no change in lethality, no effect on weight gain, no serum chemistry changes, except for a slight increase (30 %) in lactic dehydrogenase levels.

CUSTOMER VALIDATION

- Theranostics. 2020 Aug 13;10(24):11110-11126.

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REFERENCES

[1]. Mahiques-Santos L. Melanotan [Melanotan]. Actas Dermosifiliogr. 2012 May;103(4):257-9. Spanish.

[2]. Hadley ME, et al. Melanocortin peptide therapeutics: historical milestones, clinical studies and commercialization. Peptides. 2006 Apr;27(4):921-30.

[3]. Hadley ME, et al. Discovery and development of novel melanogenic drugs. Melanotan-I and -II. Pharm Biotechnol. 1998;11:575-95.

[4]. Langan EA, et al. Melanotropic peptides: more than just 'Barbie drugs' and 'sun-tan jabs'? Br J Dermatol. 2010 Sep;163(3):451-5.

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

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