

Product data sheet



MedKoo Cat#: 574015 Name: Melanotan II acetate CAS: 1036322-26-5 Chemical Formula: C ₅₂ H ₇₃ N ₁₅ O ₁₁ Exact Mass: 1083.5614 Molecular Weight: 1084.25		
Product supplied as:		Powder
Purity (by HPLC):		≥ 98%
Shipping conditions		Ambient temperature
Storage conditions:		Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Melanotan II acetate is an agonist of melanocortin receptor 1 (MC1R), MC3R, MC4R, and MC5R. It has been shown to improve recovery of sciatic nerve function after mechanical injury and increase cisplatin-induced decreases in sensory nerve conduction velocity. Melanotan II acetate increases oxygen consumption and protein levels of uncoupling protein 1 (UCP1) in brown adipose tissue homogenates and decreases food intake, body weight, and serum levels of leptin, glucose, insulin, and cholesterol.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	0.92 mL	4.61 mL	92.23 mL
5 mM	0.18 mL	0.92 mL	1.84 mL
10 mM	0.09 mL	0.46 mL	0.92 mL
50 mM	0.02 mL	0.09 mL	0.18 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Wu JC, Tsai HE, Hsiao YH, Wu JS, Wu CS, Tai MH. Topical MTII Therapy Suppresses Melanoma Through PTEN Upregulation and Cyclooxygenase II Inhibition. *Int J Mol Sci.* 2020 Jan 20;21(2):681. doi: 10.3390/ijms21020681. PMID: 31968661; PMCID: PMC7013727.
2. Chai B, Li JY, Zhang W, Wang H, Mulholland MW. Melanocortin-4 receptor activation inhibits c-Jun N-terminal kinase activity and promotes insulin signaling. *Peptides.* 2009 Jun;30(6):1098-104. doi: 10.1016/j.peptides.2009.03.006. Epub 2009 Mar 25. PMID: 19463742; PMCID: PMC2687409.

In vivo study

1. Eliason NL, Martin L, Low MJ, Sharpe AL. Melanocortin receptor agonist melanotan-II microinjected in the nucleus accumbens decreases appetitive and consumptive responding for food. *Neuropeptides.* 2022 Dec;96:102289. doi: 10.1016/j.npep.2022.102289. Epub 2022 Sep 16. PMID: 36155088.
2. Fortin SM, Chen J, Grill HJ, Hayes MR. The Mesencephalic Trigeminal Nucleus Controls Food Intake and Body Weight via Hindbrain POMC Projections. *Nutrients.* 2021 May 13;13(5):1642. doi: 10.3390/nu13051642. PMID: 34068091; PMCID: PMC8152732.

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7. Bioactivity

Biological target:

Melanotan II acetate is an agonist of melanocortin receptor 1 (MC1R), MC3R, MC4R, and MC5R.

In vitro activity

It was found that, despite a lack of influence on proliferation, MTII (melanotan II) potently inhibited the migration, invasion, and colony-forming capability of melanoma cells. By immunoblot and immunohistochemical analysis, it was found that MTII dose-dependently increased the phosphatase and tensin homolog (PTEN) protein level while reducing PTEN phosphorylation, which resulted in the inhibition of AKT/nuclear factor kappa B (NFκB) signaling. Consistently, MTII treatment inhibited cyclooxygenase II (COX-2) expression and prostaglandin E2 (PGE2) production in melanoma cells.

Reference: Int J Mol Sci. 2020 Jan 20;21(2):681. <https://pubmed.ncbi.nlm.nih.gov/31968661/>

In vivo activity

MT-II (melanotan II) injected into the rat nucleus accumbens significantly decreased consumption in both home cage and operant paradigms, and furthermore decreased appetitive responding to gain access to food. There was no development of conditioned taste avoidance or change in metabolic parameters following anorexic doses of MT-II.

Reference: Neuropeptides. 2022 Dec;96:102289. <https://pubmed.ncbi.nlm.nih.gov/36155088/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.