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PRODUCT INFORMATION



[Nle⁴,D-Phe⁷]-α-MSH (acetate)

Item No. 41548

CAS Registry No.: 1566590-77-9

Formal Name: 4-L-norleucine-7-D-phenylalanine-α-melanotropin (swine), acetate

Synonyms: Afamelanotide, Melanotan I, [Nle⁴,D-Phe⁷]-α-Melanocyte-stimulating Hormone, NDP-α-MSH, NDP-MSH

Peptide Sequence: Ac-SYSXEHfRWGKPV-NH₂ (X = Nor-leucine)

MF: C₇₈H₁₁₁N₂₁O₁₉ • XC₂H₄O₂

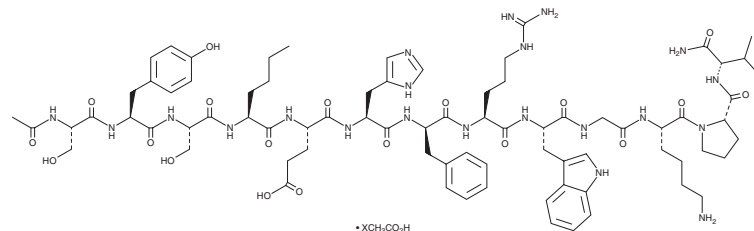
FW: 1,646.9

Purity: ≥98%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

[Nle⁴,D-Phe⁷]-α-MSH (acetate) is supplied as a solid. A stock solution may be made by dissolving the [Nle⁴,D-Phe⁷]-α-MSH (acetate) in the solvent of choice, which should be purged with an inert gas. [Nle⁴,D-Phe⁷]-α-MSH (acetate) is sparingly soluble (1-10 mg/ml) in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of [Nle⁴,D-Phe⁷]-α-MSH (acetate) can be prepared by directly dissolving the solid in aqueous buffers. [Nle⁴,D-Phe⁷]-α-MSH (acetate) is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

[Nle⁴,D-Phe⁷]-α-Melanocyte-stimulating hormone ([Nle⁴,D-Phe⁷]-α-MSH) is a peptide agonist of melanocortin receptor 1 (MC1R).¹ It induces cAMP accumulation in mouse L-cells expressing human MC1R (EC₅₀ = 0.5 nM). It also induces tyrosinase activity in mouse melanoma cells.² *In vivo*, [Nle⁴,D-Phe⁷]-α-MSH (1.8 mg/kg) induces long-term skin darkening in frogs (*R. pipiens*).³ Formulations containing [Nle⁴,D-Phe⁷]-α-MSH have been used in the treatment of erythropoietic protoporphyria and as tanning agents.

References

1. Haskell-Luevano, C., Miwa, H., Dickinson, C., *et al.* Binding and cAMP studies of melanotropin peptides with the cloned human peripheral melanocortin receptor, hMC1R. *Biochem. Biophys. Res. Commun.* **204**(30), 1137-1147 (1994).
2. Sawyer, T.K., Sanfilippo, P.J., Hruby, V.J., *et al.* 4-Norleucine, 7-D-phenylalanine-α-melanocyte-stimulating hormone: A highly potent α-melanotropin with ultralong biological activity. *Proc. Natl. Acad. Sci. USA* **77**(10), 5754-5758 (1980).
3. Hadley, M.E., Anderson, B., Heward, C.B., *et al.* Calcium-dependent prolonged effects on melanophores of [4-norleucine, 7-D-phenylalanine]-α-melanotropin. *Science* **213**(4511), 1025-1027 (1981).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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