PRODUCT INFORMATION

β-MSH (human)

Item No. 41549

CAS Registry No.: 17908-57-5
Formal Name: L-alanyl-L-α-glutamyl-L-lysyl-L-lysyl-L-α-aspartyl-L-α-glutamylglycyl-L-prolyl-L-tyrosyl-L-arginyl-L-methionyl-L-α-glutamyl-L-histidyl-L-phenylalanyl-L-arginyl-L-tryptophylglycyl-L-seryl-L-prolyl-L-prolyl-L-lysyl-L-aspartic acid
Synonyms: Human β-Melanotropin, β-Lipotropin (35-56), β-Melanocyte-stimulating Hormone
Peptide Sequence: AEKKDEGPYRMEHFRWGSPPKD-OH
MF: $C_{118}H_{174}N_{34}O_{35}S$
FW: 2,660.9
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years

H—Ala—Glu—Lys—Lys—Asp—Glu—Gly—Pro—Tyr—Arg—
Met—Glu—His—Phe—Arg—Trp—Gly—Ser—Pro—Pro—
Lys—Asp—OH

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

Laboratory Procedures

β-MSH (human) is supplied as a solid. Aqueous solutions of β-MSH (human) can be prepared by directly dissolving the solid in aqueous buffers. β-MSH (human) is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

β-Melanocyte-stimulating hormone (β-MSH) is a peptide hormone produced by post-translational processing of proopiomelanocortin (POMC) in the pituitary gland.[1,2] It selectively binds to melanocortin receptor 1 (MC1R) over MC3R, MC4R, and MC5R (K_is = 0.89, 10.64, 8.18, and 76.9 nM, respectively).[3] β-MSH (1 µM) induces lipolysis in isolated rabbit adipocytes.[2] It increases plasma levels of glucagon, insulin, and free fatty acids in fed or fasted rabbits when administered at a dose of 45 µg/animal.[4] Cerebrospinal fluid (CSF) levels of β-MSH are increased in patients with restless legs syndrome with painful symptoms.[5]

References

1. Abe, K., Nicholson, W.E., Little, G.W., *et al.* Radioimmunoassay of beta-MSH in human plasma and tissues. *J. Clin. Invest.* **46(10)**, 1609-1616 (1967).
2. Richter, W.O. and Schwandt, P. Lipolytic potency of proopiomelanocorticotropin peptides in vitro. *Neuropeptides* **9(1)**, 59-74 (1987).
3. Mayer, J.P., Hsiung, H.M., Flora, D.B., *et al.* Discovery of a *β*-MSH-derived MC-4R selective agonist. *J. Med. Chem.* **48(9)**, 3095-3098 (2005).
4. Knudtzon, J. Alpha-melanocyte stimulating hormone increases plasma levels of glucagon and insulin in rabbits. *Life Sci.* **34(6)**, 547-554 (1984).
5. Koo, B.B., Abdelfattah, A., Eysa, A., *et al.* The melanocortin and endorphin neuropeptides in patients with restless legs syndrome. *Ann. Neurol.* **95(4)**, 688-699 (2024).

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