

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

H—Ala—Glu—Lys—Lys—Asp—Glu—Gly—Pro—Tyr—Arg—

Met—Glu—His—Phe—Arg—Trp—Gly—Ser—Pro—Pro—

Lys—Asp—OH

Peptide Sequence: AEKKDEGPYRMEHFRWGSPPKD-OH

MF: $C_{118}H_{174}N_{34}O_{35}S$

FW: 2,660.9

Purity: $\geq 98\%$

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

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_i s = 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 $\mu\text{g}/\text{animal}$.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).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 08/08/2024

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM