

Product Data Sheet

Product Name: ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt)
 Cat. No.: GC45372

Chemical Properties

Cas. No.

SMILES O=C1[C@@]2(C)[C@@]([C@H]3C[C@]4([H])[C@]2([H])CC[C@@]5(C)[C@@]4(O)CC[C@@]5(O)[C@@](C)(O)[C@@]6([H])CC(C)=C(C)C(O6)=O)(O3)[C@@H](O)C=C1

Formula C75H106N20O19S.XCF3COOH M.Wt 1623.8

Solubility DMF: .2mg/mL, DMSO: 10mg/mL, Ethanol: slightly soluble, PBS (pH 7.2): 10mg/mL
 Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure H—Ser—Tyr—Ser—Met—Glu—His—Phe—Arg—Trp—Gly—
 Lys—Pro—Val—OH
 • XCF₃COOH

Background

ACTH (1-13) is a peptide fragment of adrenocorticotrophic hormone, a peptide hormone found in the brain that is involved in the biological stress response.¹ An acetylated form of ACTH (1-13), α -melanocyte stimulating hormone (α -MSH), is formed in the intermediate lobe of the pituitary gland by cleavage of ACTH (1-39), as well as in keratinocytes, astrocytes, monocytes, and gastrointestinal cells.^{1,2} ACTH (1-13) is an agonist of melanocortin receptor 3 (MC3R) and MC4R, inducing cAMP production in vitro with EC₅₀ values of 0.18 and 19 nM, respectively, which is similar in potency to that of α -MSH.³ It induces differentiation of melanocytes when used at concentrations ranging from 0.001 to 1,000 nM.⁴ ACTH (1-13) (40 and 400 pmol, i.c.v.) decreases food intake in broiler chicks.⁵

References

1. Strand, F.L., Lee, S.J., Zuccarelli, L.A., et al. Non-corticotrophic ACTH peptides modulate nerve development and regeneration. *Rev. Neurosci.* 4(4), 321-363 (1993).

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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2. Catania, A., Airaghi, L., Colombo, G., et al. α -melanocyte-stimulating hormone in normal human physiology and disease states. Trends Endocrinol. Metab. 11(8), 304-308 (2000).
3. Miwa, H., Gantz, I., Konda, Y., et al. Structural determinants of the melanocortin peptides required for activation of melanocortin-3 and melanocortin-4 receptors. J. Pharmacol. Exp. Ther. 273(1), 367-372 (1995).
4. Hirobe, T., and Hiroyuki, A. ACTH4-12 is the minimal message sequence required to induce the differentiation of mouse epidermal melanocytes in serum-free primary culture. J. Exp. Zool. 286(6), 632-640 (2000).
5. Saneyasu, T., Honda, K., Kamisoyama, H., et al. Alpha-melanocyte stimulating hormone plays an important role in the regulation of food intake by the central melanocortin system in chicks. Peptides 32(5), 996-1000 (2011).

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