PRODUCT INFORMATION

ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt)

Item No. 27150

Formal Name: $\alpha^{1\text{-}13}$-corticotropin, trifluoroacetate salt
Synonym: SYSMEHFRWGKPV-OH
MF: $C_{75}H_{106}N_{20}O_{19}S \bullet XCF_3COOH$
FW: 1,623.8
Purity: ≥98%
UV/Vis.: λ_{max}: 278 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years

H – Ser – Tyr – Ser – Met – Glu – His – Phe – Arg – Trp – Gly –
Lys – Pro – Val – OH
• XCF_3COOH

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

Laboratory Procedures

ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt) in these solvents is approximately 10 and 0.2 mg/ml, respectively. ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt) is also slightly soluble in ethanol.

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 ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of ACTH (1-13) (human, mouse, rat, porcine, bovine, ovine) (trifluoroacetate salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

ACTH (1-13) is a peptide fragment of adrenocorticotropic hormone (ACTH; Item No. 24257), 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 EC_{50} 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

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3. Miwa, H., Gantz, I., Konda, Y., *et al. J. Pharmacol. Exp. Ther.* **273(1)**, 367-372 (1995).
4. Hirobe, T. and Hiroyuki, A. *J. Exp. Zool.* **286(6)**, 632-640 (2000).
5. Saneyasu, T., Honda, K., Kamisoyama, H., *et al. Peptides* **32(5),** 996-1000 (2011).

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