

Product Data Sheet

Product Name: ACTH (11-24) (human, mouse, rat, porcine, bovine, ovine) (acetate)

Cat. No.: GC92106

Chemical Properties

Cas. No.

Chemical Name α 11-24-corticotropin, acetate

Name

SMILES O=C(N1CCC[C@H]1C(N[C@@H](C(C)C)C(NCC(N[C@@H](CCCCN[H])C(N[C@@H](CCCCN[H])C(N[C@@H](CCC/N=C(N[H])/N)C(N[C@@H](CCC/N=C(N[H])/N)C(N2CCC[C@H]2C(N[C@@H](C(C)C)C(N[C@@H](CCCCN[H])C(N[C@@H](C(C)C)C(N[C@@H](CC3=CC=C(O[H])C=C3)C(N4CCC[C@H]4C(O)=O)=O)=O)=O)=O)=O)=O)=O)=O)[C@H](CCCCN[H])N[H].CC(O)=O

Formula $C_{77}H_{134}N_{24}O_{16} \cdot XC_2H_4O_2$ M.Wt 1652

Solubility DMSO: Slightly soluble: 0.1-1 mg/ml, PBS (pH 7.2): Soluble: ≥ 10 mg/ml Storage $-20^\circ C$

General tips For obtaining a higher solubility, please warm the tube at $37^\circ C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^\circ C$ 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 $H-Lys-Pro-Val-Gly-Lys-Lys-Arg-Arg-Pro-Val-Lys-Val-Tyr-Pro-OH$
 $\bullet XCH_3CO_2H$

Background

Adrenocorticotrophic hormone (ACTH) (11-24) is a peptide fragment of ACTH, a peptide hormone found in the brain that is involved in the biological stress response, and an antagonist of melanocortin receptor 2 (MC2R), also known as the ACTH receptor ($IC_{50} = \sim 1$ nM in HeLa cells expressing the mouse receptor).^{1,2} It induces corticosterone and aldosterone production in isolated rat zona glomerulosa and zona fasciculata cells, respectively, with minimum effective concentrations of 4 and

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3 ?M, respectively.³ Unlike ACTH (4-11), ACTH (11-24) does not induce differentiation of primary mouse melanocytes.⁴ *In vivo*, ACTH (11-24) (1.69 ?g/animal, i.c.v.) inhibits ACTH-induced stretching, yawning, and penile erections in rats.⁵

References:

- [1]. Strand, F.L., Lee, S.J., Zuccarelli, L.A., et al. Non-corticotropic ACTH peptides modulate nerve development and regeneration *Rev. Neurosci.* 4(4)321-363(1993).
- [2]. Kapas, S., Cammas, F.M., Hinson, J.P., et al. Agonist and receptor binding properties of adrenocorticotropin peptides using the cloned mouse adrenocorticotropin receptor expressed in a stably transfected HeLa cell line *Endocrinology* 137(8)3291-3294(1996).
- [3]. Szalay, K.S., De Wied, D., and Stark, E. Effects of ACTH-(11-24) on the corticosteroid production of isolated adrenocortical cells *J. Steroid Biochem.* 32(2)259-262(1989).
- [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]. Genedani, S., and Bernardi, M. ACTH-(11-24) antagonizes ACTH-(1-24)-induced behavioral syndrome *Neuropeptides* 26(4)241-244(1994).

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