

Product Data Sheet

Product Name: ACTH (7-38) (human) (trifluoroacetate salt)

Cat. No.: GC92123

Chemical Properties

Cas. No.

Chemical Name 31-L-serine- α 7-38-corticotropin (swine), trifluoroacetate salt

SMILES O=C(N[C@@H](CCC/N=C(N[H])N)C(N[C@@H](CC1=CN([H])C2=C1C=CC=C2)C(NC(N[C@@H](CCCCN[H])C(N3CCC[C@H]3C(N[C@@H](C(C)C)C(NCC(N[C@@H](CCCN[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(N4CCC[C@H]4C(N[C@@H](C(C)C)C(N[C@@H](CCCCN[H])C(N[C@@H](C(C)C)C(N[C@@H](CC5=CC=C(O[H])C=C5)C(N6CCC[C@H]6C(N[C@@H](CC(N[H])=O)C(NCC(N[C@H](C(N[C@@H](CCC(O)=O)C(N[C@@H](CC(O)=O)C(N[C@@H](CCC(O)=O)C(N[C@@H](CO[H])C(N[C@H](C(N[C@@H](CCC(O)=O)C(N[C@H](C(N[C@H](C(N7CCC[C@H]7C(N[C@H](C(N[C@@H](CCC(O)=O)C(O)=O)=O)CC(C)C)=O)=O)CC8=CC=CC=C8)=O)C)=O)=O)C)=O)=O)=O)=O)C)=O)=O)=O)=O)=O)[C@@H](N[H])CC9=CC=CC=C9.O=C(O)C(F)(F)F

Formula $C_{167}H_{257}N_{47}O_{46} \cdot XCF_3COOH$ M.Wt 3659.2

Solubility DMSO: Soluble: ≥ 10 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-Phe-Arg-Trp-Gly-Lys-Pro-Val-Gly-Lys-Lys-Arg-Arg-Pro-Val-Lys-Val-Tyr-Pro-Asn-Gly-Ala-Glu-Asp-Glu-Ser-Ala-Glu-Ala-Phe-Pro-Leu-Glu-OH

• XCF_3COOH

Background

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

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Adrenocorticotrophic hormone (ACTH) (7-38) is a peptide fragment of ACTH and an antagonist of melanocortin receptor 2 (MC2R), also known as the ACTH receptor.¹ It inhibits ACTH-induced corticosterone production in isolated rat adrenal cells when used at concentrations of 0.455 or 4.55 μ M. ACTH (7-38) also inhibits angiotensin-converting enzyme 1 (ACE1; IC₅₀ = 750 nM for the dog enzyme).² It inhibits basal cAMP secretion by isolated rat inner adrenocortical cells when used at a concentration of 1 μ M.³ ACTH (7-38) induces hypotension in normotensive dogs (ED₅₀ = 0.109 nmol/kg).⁴

References:

- [1]. Li, C.H., Chung, D., Yamashiro, D., et al. Isolation, characterization, and synthesis of a corticotropin-inhibiting peptide from human pituitary glands *Proc. Natl. Acad. Sci. U.S.A.* 75(9)4306-4309(1978).
- [2]. Verma, P.S., Miller, R.L., Taylor, R.E., et al. Inhibition of canine lung angiotensin converting enzyme by ACTH and structurally related peptides *Biochem. Biophys. Res. Commun.* 104(4)1484-1488(1982).
- [3]. Mazzocchi, G., Rebuffat, P., Gottardo, L., et al. Vasoactive intestinal peptide stimulates rat adrenal glucocorticoid secretion, through an ACTH receptor-dependent activation of the adenylate cyclase signaling pathway *Horm. Metab. Res.* 30(5)241-243(1998).
- [4]. Tenner, T.E., Jr., Yang, C.M., Chang, J.K., et al. Pharmacological comparison of bPTH-(1-34) and other hypotensive peptides in the dog *Peptides* 1(4)285-288(1980).

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