

Product Data Sheet

Product Name: Neuropeptide EI (rat) (trifluoroacetate salt)

Cat. No.: GC92100

Chemical Properties

Cas. No.

Chemical Name L- α -glutamyl-L-isoleucylglycyl-L- α -aspartyl-L- α -glutamyl-L- α -glutamyl-L-asparaginyl-L-seryl-L-alanyl-L-lysyl-L-phenylalanyl-L-prolyl-L-isoleucinamide, trifluoroacetate salt

SMILES OC(C(F)(F)F)=O.[H]N[C@@H](CCC(O)=O)C(N[C@@H](C(C)C)C([H])C(NCC(N[C@@H](C(N[C@@H](CCC(O)=O)C(N[C@@H](CCC(O)=O)C(N[C@@H](CC(N)=O)C(N[C@@H](CO)C(N[C@@H](C(N[C@@H](CCCCN)C(N[C@@H](C(N1CCC[C@H]1C(N[C@@H](C(C)C)C([H])C(N)=O)=O)=O)CC2=CC=CC=C2)=O)=O)C)=O)=O)=O)=O)CC(O)=O)=O)=O

Formula $C_{63}H_{98}N_{16}O_{23} \cdot XCF_3COOH$ M.Wt 1447.6

Solubility DMSO: Sparingly soluble: 1-10 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 $H-Glu-Ile-Gly-Asp-Glu-Glu-Asn-Ser-Ala-Lys-$
 $Phe-Pro-Ile-NH_2$
 $\cdot XCF_3COOH$

Background

Neuropeptide EI (NEI) is an endogenous peptide fragment of rat prepro-melanin concentrating hormone (MCH) that is involved in hormone release, grooming behavior, and motor activity.¹ NEI corresponds to amino acids 140-152 of rat prepro-MCH and 131-143 of human, mouse, and rat prepro-MCH. It is expressed in both the central and peripheral nervous systems, localizes to the cytoplasm, and colocalizes with MCH in the CNS.^{1,2} NEI ($1 \mu M$) reduces thyrotropin-releasing

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

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hormone (TRH) release in mediobasal hypothalamus explants.³ Intracerebroventricular administration of NEI increases serum levels of luteinizing hormone (LH) in male rats and in chronically ovariectomized female rats that received estradiol benzoate and progesterone in addition to NEI.⁴ NEI (1 µg/animal, i.c.v.) induces excessive grooming behavior and increases locomotor activity in rats, effects that can be blocked by MCH or α -melanocyte-stimulating hormone (α -MSH).⁵ It also increases the amount of time spent in REM sleep in rats when injected intracerebroventricularly or into the ventrolateral periaqueductal grey (vIPAG).

References:

- [1]. Bittencourt, J., and Celis, M.E. Anatomy, function and regulation of neuropeptide EI (NEI) *Peptides* 29(8)1441-1450 (2008).
- [2]. Bittencourt, J.C. Anatomical organization of the melanin-concentrating hormone peptide family in the mammalian brain *Gen. Comp. Endocrinol.* 172(2)185-197 (2011).
- [3]. Kennedy, A.R., Todd, J.F., Stanley, S.A., et al. Melanin-concentrating hormone (MCH) suppresses thyroid stimulating hormone (TSH) release, in vivo and in vitro, via the hypothalamus and the pituitary *Endocrinology* 142(7)3265-3268 (2001).
- [4]. Attademo, A.M., Sánchez-Borzone, M., Lasaga, M., et al. Intracerebroventricular injection of neuropeptide EI increases serum LH in male and female rats *Comparative Study* 25(11)1995-1999 (2004).
- [5]. Sanchez, M., Baker, B.I., and Celis, M. Melanin-concentrating hormone (MCH) antagonizes the effects of α -MSH and neuropeptide E-I on grooming and locomotor activities in the rat *Peptides* 18(3)393-396 (1997).

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