

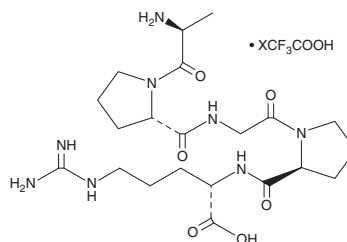
PRODUCT INFORMATION



Enterostatin (human, mouse, rat) (trifluoroacetate salt)

Item No. 34624

Formal Name: L-alanyl-L-prolylglycyl-L-prolyl-L-arginine, trifluoroacetate salt
Synonym: APGPR
MF: C₂₁H₃₆N₈O₆ • XCF₃COOH
FW: 496.6
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Enterostatin (human, mouse, rat) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the enterostatin (human, mouse, rat) (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Enterostatin (human, mouse, rat) (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of enterostatin (human, mouse, rat) (trifluoroacetate salt) in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

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 enterostatin (human, mouse, rat) (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of enterostatin (human, mouse, rat) (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

Enterostatin is an endogenous pentapeptide fragment involved in the regulation of food intake.¹ It is released from its precursor protein, procolipase, during digestion and acts in the peripheral and central nervous systems to reduce food, especially fat, intake through the vagus nerve in the periphery and κ-opioid-, serotonin (5-HT) receptor subtype 5-HT_{1B}-, and cholecystokinin-mediated signaling pathways in the brain.^{1,2} Enterostatin binds to mitochondrial complex V, also known as F₁F₀ ATP synthase, in a cell-free assay and inhibits ATP production and increases thermogenesis in INS-1 insulinoma cells.³ It reduces body weight in rats fed a high-fat diet but not mice fed a chow diet. Enterostatin (1 nmol, i.c.v) reduces food intake in wild-type, but not melanocortin receptor 4 knockout (*Mc4r*^{-/-}), mice.⁴ It also enhances memory consolidation in mice in a passive avoidance test when administered at a dose of 300 mg/kg, an effect that can be blocked by the cholecystokinin 1 (CCK₁) receptor antagonist lorglumide (Item No. 17555).⁵

References

1. York, D.A. and Park, M. *Handbook of biologically active peptides*. Kastin, A.J., editor, 1st edition, Academic Press (2006).
2. Lin, L. and York, D.A. *Brain Res.* **1062(1-2)**, 26-31 (2005).
3. Berger, K., Sivars, U., Winzell, M.S., et al. *Nurtr. Neurosci.* **5(3)**, 201-210 (2002).
4. Lin, L., Park, M., and York, D.A. *Peptides* **28(3)**, 643-649 (2007).
5. Ohinata, K., Sonoda, S., Shimano, T., et al. *Peptides* **28(3)**, 719-721 (2007).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/22/2022

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