

PRODUCT INFORMATION



Guanylin (human) (trifluoroacetate salt)

Item No. 33140

Formal Name: L-prolylglycyl-L-threonyl-L-cysteinyl-L- α -glutamyl-L-isoleucyl-L-cysteinyl-L-alanyl-L-tyrosyl-L-alanyl-L-alanyl-L-cysteinyl-L-threonylglycyl-L-cysteine, cyclic (4 \rightarrow 12),(7 \rightarrow 15)-bis(disulfide), trifluoroacetate salt

MF: C₅₈H₈₇N₁₅O₂₁S₄ • XCF₃COOH

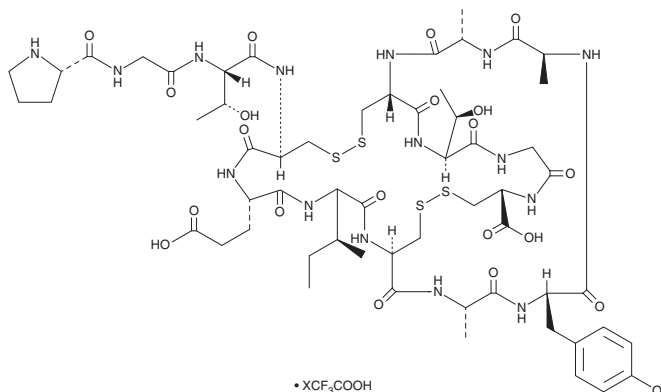
FW: 1,458.7

Purity: \geq 98%

Supplied as: A solid

Storage: -20°C

Stability: \geq 4 years



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

Laboratory Procedures

Guanylin (human) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the guanylin (human) (trifluoroacetate salt) in water. The solubility of guanylin (human) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Guanylin is a peptide hormone activator of membrane-bound guanylate cyclase C (GC-C).^{1,2} It contains four cysteines that can form disulfide bridges leading to two possible isoforms, with the active form containing disulfide bridges between Cys⁴ and Cys¹² and Cys⁷ and Cys¹⁵.¹ Guanylin is found in epithelial cells of the small intestine where it activates GC-C to increase intestinal chloride and fluid secretion.²⁻⁴ Guanylin expression is reduced by 100- to 1,000-fold in greater than 85% of isolated tumors from patients with colorectal cancer compared with adjacent non-cancerous intestinal epithelial tissue.⁵

References

1. Nokihara, K., Wray, V., Ando, E., *et al.* Synthesis, solution structure, binding activity, and cGMP activation of human guanylin and its disulfide isomer. *Regul. Pept.* **70(2-3)**, 111-120 (1997).
2. de Sauvage, F.J., Keshav, S., Kuang, W.-J., *et al.* Precursor structure, expression, and tissue distribution of human guanylin. *Proc. Natl. Acad. Sci. USA* **89(19)**, 9089-9093 (1992).
3. Hill, O., Kuhn, M., Zucht, H.-D., *et al.* Analysis of the human guanylin gene and the processing and cellular localization of the peptide. *Proc. Natl. Acad. Sci. USA* **92(6)**, 2046-2050 (1995).
4. Forte, L.R. and Currie, M.G. Guanylin: A peptide regulator of epithelial transport. *FASEB J.* **9(8)**, 643-650 (1995).
5. Wilson, C., Lin, J.E., Snook, A.E., *et al.* The paracrine hormone for the GUCY2C tumor suppressor, guanylin, is universally lost in colorectal cancer. *Cancer Epidemiol. Biomarkers Prev.* **23(11)**, 2328-2337 (2014).

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, 01/03/2023

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