PRODUCT INFORMATION

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

Item No. 24758

Formal Name: L-histidyl-L-seryl-L-glutaminylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L-α-aspartyl-L-tyrosyl-L-seryl-L-lysyl-L-tyrosyl-L-leucyl-L-α-aspartyl-L-seryl-L-arginyl-L-arginyl-L-alanyl-L-glutaminyl-L-α-aspartyl-L-phenylalanyl-L-valyl-L-glutaminyl-L-tryptophyl-L-leucyl-L-methionyl-L-asparaginyl-L-threonyl-L-lysyl-L-arginyl-L-asparaginyl-L-arginyl-L-asparaginyl-L-asparaginyl-L-isoleucyl-L-alanine, trifluoroacetate salt

H—His—Ser—Gln—Gly—Thr—Phe—Thr—Ser—Asp—Tyr—Ser—Lys—Tyr—Leu—Asp—Ser—Arg—Arg—Ala—Gln—Asp—Phe—Val—Gln—Trp—Leu—Met—Asn—Thr—Lys—Arg—Asn—Arg—Asn—Asn—Ile—Ala—OH • XCF_3COOH

Synonyms: Glicentin (33-69), Proglucagon (33-69)
MF: $C_{192}H_{295}N_{61}O_{60}S$ • XCF_3COOH
FW: 4,449.8
Purity: ≥95%
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥4 years

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

Laboratory Procedures

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

Description

Oxyntomodulin is a peptide hormone involved in regulation of food intake, energy expenditure, and glucose metabolism.[1] It is produced in gut endocrine L-cells *via* post-translational processing of preproglucagon by prohormone convertase 1/3 following nutrient uptake. Oxyntomodulin is an agonist of the glucagon-like peptide-1 receptor (GLP-1R) and the glucagon receptor (GCGR; IC_{50}s = 4.3 and 355 nM for rat GCGR and GLP-1R, respectively).[2] It is selective for GCGR and GLP-1R over GLP-2R and glucose-dependent insulinotrophic peptide receptor (GIPR), as it stimulates cAMP formation in BHK cells expressing rat GCGR and GLP-1R when used at concentrations of 10 or 100 nM, but has no effect on cells expressing rat GLP-2R or GIPR at either concentration.[3] Oxyntomodulin also stimulates cAMP formation in CHO cells expressing mouse GLP-1R and GCGR (EC_{50}s = 2.5 and 6.2 nM, respectively).[4] *In vivo*, oxyntomodulin reduces refeeding in 24-hour fasted rats when injected intracerebroventricularly or into the paraventricular nucleus (PVN) of the hypothalamus at doses of 3 and 1 nmol, respectively.[5] Oxyntomodulin (50 nmol/kg twice per day for 7 days) reduces cumulative daily food intake and rate of body weight gain in rats.[6]

References

1. Pocai, A. *Mol. Metab.* **3(3)**, 241-251 (2013).
2. Price, S.L., Minnion, J.S., and Bloom, S.R. *Curr. Ther. Res. Clin. Exp.* **77**, 111-115 (2015).
3. Baggio, L.L., Huang, Q., Brown, T.J., *et al. Gastroenterology* **127(2)**, 546-558 (2004).
4. Pocai, A., Carrington, P.E., Adams, J.R., *et al. Diabetes* **58(10)**, 2258-2266 (2009).
5. Dakin, C.L., Gunn, I., Small, C.J., *et al. Endocrinology* **142(10)**, 4244-4250 (2001).
6. Dakin, C.L., Small, C.J., Batterham, R.L., *et al. Endocrinology* **145(6)**, 2687-2695 (2004).

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