PRODUCT INFORMATION

(Des-octanoyl)-Ghrelin (human) (trifluoroacetate salt)

Item No. 25010

Formal Name: glycyl-L-seryl-L-seryl-L-phenylalanyl-L-leucyl-L-seryl-L-prolyl-L-α-glutamyl-L-histidyl-L-glutaminyl-L-arginyl-L-valyl-L-glutaminyl-L-glutaminyl-L-arginyl-L-lysyl-L-α-glutamyl-L-seryl-L-lysyl-L-lysyl-L-prolyl-L-prolyl-L-alanyl-L-lysyl-L-leucyl-L-glutaminyl-L-prolyl-L-arginine, trifluoroacetate salt

MF: $C_{141}H_{235}N_{47}O_{41} \bullet XCF_3COOH$
FW: 3,244.7
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

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

Description

Ghrelin is an endogenous gastrointestinal hormone and neuropeptide that binds to the growth hormone (GH) secretagogue receptor (GHS-R).[1,2] Ghrelin requires an n-octanoyl modification at serine 3 for binding to the growth hormone (GH) secretagogue receptor (GHS-R).[3] (Des-octanoyl)-ghrelin (human) is a form of ghrelin that is lacking the octanoyl group at serine 3. It is located in the mouse stomach and is expressed at a lower level than octanoyl ghrelin.[4] (Des-octanoyl)-ghrelin activates GHS-R by only 41% when used at 10 µM (IC_{50} = >10,000 nM; EC_{50} = >10,000 nM for increasing calcium accumulation).[5] It induces bone marrow adipogenesis in rat models of growth hormone deficiency.[6] (Des-octanoyl)-ghrelin also inhibits cell proliferation in estrogen-dependent MCF-7 breast cancer cells (EC_{50} = 0.81 µM) but induces proliferation of a somatotroph pituitary tumor cell line, an effect that can be blocked by MAPK, PKC, and tyrosine kinase inhibitors.[7,8]

References

1. Kojima, M., Hosoda, H., Date, Y., *et al. Nature* **402(6762)**, 656-660 (1999).
2. Dickson, S.L., Egecioglu, E., Landgren, S., *et al. Mol. Cell Endocrinol.* **340(1)**, 80-87 (2011).
3. Resh, M.D. *Prog. Lipid Res.* **63**, 120-131 (2016).
4. Janssen, S., Laermans, J., Verhulst, P.-J., *et al. Proc. Natl. Acad. Sci. U.S.A.* **108(5)**, 2094-2099 (2011).
5. Bednarek, M.A., Feighner, S.D., Pong, S.-S., *et al. J. Med. Chem.* **43(23)**, 4370-4376 (2000).
6. Thompson, N.M., Gill, D.A., Davies, R., *et al. Endocrinology* **145(1)**, 234-242 (2004).
7. Cassoni, P., Papotti, M., Ghè, C., *et al. J. Clin. Endocrinol. Metab.* **86(4)**, 1738-1745 (2001).
8. Nanzer, A.M., Khalaf, S., Mozid, A.M., *et al. Eur. J. Endocrinol.* **151(2)**, 233-240 (2004).

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