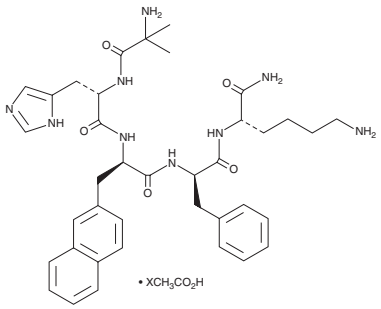
PRODUCT INFORMATION

Ipamorelin (acetate)

Item No. 39813

Formal Name: 2-methylalanyl-L-histidyl-3-(2-naphthalenyl)-D-alanyl-D-phenylalanyl-L-lysinamide, acetate
Synonyms: Aib-His-D-2-Nal-D-Phe-Lys-NH_2, NNC 26-0161
MF: $C_{38}H_{49}N_9O_5 \bullet XC_2H_4O_2$
FW: 711.9
Purity: ≥98%
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

Ipamorelin (acetate) is supplied as a solid. A stock solution may be made by dissolving the ipamorelin (acetate) in the solvent of choice, which should be purged with an inert gas. Ipamorelin (acetate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ipamorelin (acetate) in ethanol is approximately 30 mg/ml and approximately 20 mg/ml in DMSO and DMF.

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 ipamorelin (acetate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of ipamorelin (acetate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ipamorelin is a pentapeptide growth hormone secretagogue (GHS) and GHS receptor 1a (GHS-R1a) agonist.[1,2] It binds to COS-7 cells expressing GHS-R1a (K_i = 63.4 nM), induces inositol-1,4,5-triphosphate (IP_3) accumulation in BHK cells expressing GHS-R1a (EC_{50} = 46.9 nM), and induces GH release in primary rat pituitary cells (EC_{50} = 1.3 nM).[1] Ipamorelin increases plasma levels of GH in rats and pigs (ED_{50}s = 80 and 2.3 nmol/kg, respectively) but does not increase plasma levels of follicle-stimulating hormone (FSH), luteinizing hormone (LH), prolactin, or thyroid stimulating hormone (TSH) in pigs when administered at a dose of 420 nmol/kg.[2] It increases gastric emptying in a rat model of postoperative ileus induced by laparotomy and intestinal manipulation when administered at doses of 0.014 or 0.14 µmol/kg.[3] Ipamorelin (18-450 µg/animal) increases body weight and longitudinal bone growth in rats.[4]

References

1. Hansen, B.S., Raun, K., Nielsen, K.K., *et al.* Pharmacological characterisation of a new oral GH secretagogue, NN703. *Eur. J. Endocrinol.* **141(2)**, 180-189 (1999).
2. Raun, K., Hansen, B.S., Johansen, N.L., *et al.* Ipamorelin, the first selective growth hormone secretagogue. *Eur. J. Endocrinol.* **139(5)**, 552-561 (1998).
3. Greenwood-Van Meerveld, B., Tyler, K., Mohammadi, E., *et al.* Efficacy of ipamorelin, a ghrelin mimetic, on gastric dysmotility in a rodent model of postoperative ileus. *J. Exp. Pharmacol.* **4**, 149-155 (2012).
4. Johansen, P.B., Nowak, J., Skjaerbaek, C., *et al.* Ipamorelin, a new growth-hormone-releasing peptide, induces longitudinal bone growth in rats. *Growth Horm. IGF Res.* **9(2)**, 106-113 (1999).

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