

PRODUCT INFORMATION



Exendin-4 amide-d₅ (acetate)

Item No. 46319

Synonym: Exenatide Acetate-d₅
Peptide Sequence: H[G-d₂]EGTFTSD[L-d₃]SKQMEEEEAVRLFIEWLKNGGPSSGAPPPS-NH₂
MF: C₁₈₄H₂₇₇D₅N₅₀O₆₀S • C₂H₄O₂
FW: 4,251.7
Chemical Purity: ≥95% (Exendin-4 amide)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years

H-His—Gly-d₂—Glu—Gly—Thr—Phe—Thr—Ser—Asp—Leu-d₃—
Ser—Lys—Gln—Met—Glu—Glu—Glu—Ala—Val—Arg—
Leu—Phe—Ile—Glu—Trp—Leu—Lys—Asn—Gly—Gly—
Pro—Ser—Ser—Gly—Ala—Pro—Pro—Pro—Ser—NH₂
• CH₃CO₂H

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

Laboratory Procedures

Exendin-4 amide-d₅ is intended for use as an internal standard for the quantification of exendin-4 amide (Item No. 11096) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Exendin-4 amide-d₅ is supplied as a solid. A stock solution may be made by dissolving the exendin-4 amide-d₅ in water. Exendin-4 amide-d₅ is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Exendin-4 amide is a peptide hormone produced in the salivary gland of the Gila monster and an agonist of the glucagon-like peptide 1 receptor (GLP-1R; IC₅₀ = 3.5 nM).^{1,2} Radiolabeled exendin-4 amide localizes to the pancreas, kidneys, and bladder in a porcine model of diabetes induced by streptozotocin (Item No. 13104).³ Exendin-4 amide (10 nmol/kg) improves motor performance in the rotarod test in a mouse model of Parkinson's disease induced by MPTP.⁴ It reduces MPTP-induced loss of dopaminergic neurons in the substantia nigra in the same model. Formulations containing exendin-4 amide have been used in the treatment of type 2 diabetes mellitus.

References

1. Clardy, S.M., Mohan, J.F., Vinegoni, C., *et al.* Rapid, high efficiency isolation of pancreatic β-cells. *Sci. Rep.* **5**, 13681 (2015).
2. Doyle, M.E., Theodorakis, M.J., Holloway, H.W., *et al.* The importance of the nine-amino acid C-terminal sequence of exendin-4 for binding to the GLP-1 receptor and for biological activity. *Regul. Pept.* **114(2-3)**, 153-158 (2003).
3. Nalin, L., Selvaraju, R.K., Velikyan, I., *et al.* Positron emission tomography imaging of the glucagon-like peptide-1 receptor in healthy and streptozotocin-induced diabetic pigs. *Eur. J. Nucl. Med. Mol. Imaging* **41(9)**, 1800-1810 (2014).
4. Zhang, L., Zhang, L., Li, Y., *et al.* The novel dual GLP-1/GIP receptor agonist DA-CH5 is superior to single GLP-1 receptor agonists in the MPTP model of Parkinson's disease. *J. Parkinsons Dis.* **10(2)**, 523-542 (2020).

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

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