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DATASHEET

Exendin-4

Product overview

Name	Exendin-4
Cat No	HB3157
Biological description	**Overview**

Exendin-4 is a potent glucagon-like peptide 1 (GLP-1) receptor agonist (K_d = 136 pM). It shares 53% amino-acid sequence identity to mammalian GLP-1.

Uses & applications

Exendin-4 shows similar biological actions to GLP-1 and has many glucoregulatory actions. For example, in a glucose dependent manner, it enhances insulin secretion, supresses inappropriately high glucagon section, slows gastric emptying and reduces food intake.

It has also confers cardioprotection after myocardial infarction and provides neuroprotective actions.

It additionally modulates cell-survival mechanisms in various types of cells.

Alternative names	Ex-4, Exenatide , AC 2993
Biological action	Peptide
Purity	>95%
Description	Potent GLP-1 receptor agonist

Solubility & Handling

Storage instructions	-20°C (desiccate)
Solubility overview	Soluble in water (1 mg/ml)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name	HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS (Ser-39 = C-terminal amide)
Molecular Weight	4186.63
Chemical structure	
Molecular Formula	$C_{184}H_{282}N_{50}O_{60}S$
Sequence (one letter)	HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS
Sequence (three letter)	His-Gly-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Leu-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
Modifications	Ser-39 = C-terminal amide
CAS Number	141758-74-9
PubChem identifier	45588096
SMILES	CC[C@H](C)[C@@H](C(=O)N[C@@H](CCC(=O)O)C(=O)N[C@@H](CC1=CNC2=CC=CC=C21)C(=O)N[C@@H](CC(C)C)C(=O)N[C@@H](CCCCN)C(=O)N[C@@H](CC(=O)N)C(=O)NCC(=O)NCC(=O)N3CCC[C@H]3C(=O)N[C@@H](CO)C(=O)N[C@@H](CO)C(=O)NCC(=O)N[C@@H](C)C(=O)N4CCC[C@H]4C(=O)N5CCC[C@H]5C(=O)N6CCC[C@H]6C(=O)N[C@@H](CO)C(=O)N)NC(=O)[C@H](CC7=CC=CC=C7)NC(=O)[C@H](CC(C)C)NC(=O)[C@H](CCCNC(=N)N)NC(=O)[C@H](C(C)C)NC(=O)[C@H](C)NC(=O)[C@H](CCC(=O)O)NC(=O)[C@H](CCC(=O)O)NC(=O)[C@H](CCC(=O)O)NC(=O)[C@H](CCSC)NC(=O)[C@H](CCC(=O)N)NC(=O)[C@H](CCCCN)NC(=O)[C@H](CO)NC(=O)[C@H](CC(C)C)NC(=O)[C@H](CC(=O)O)NC(=O)[C@H](CO)NC(=O)[C@H]([C@@H](C)O)NC(=

	O)[C@H](CC8=CC=CC=C8)NC(=O)[C@H]([C@@H](C)O)NC(=O)CNC(=O)[C@H](CCC(=O)O)NC(=O)CNC(=O)[C@H](CC9=CNC=N9)N
InChiKey	HTQBXNHDCUEHJF-XWLPCZSASA-N
MDL number	MFCD00240171
Protein length	39

References

Exendin-4 is a high potency agonist and truncated exendin-(9-39)-amide an antagonist at the glucagon-like peptide 1-(7-36)-amide receptor of insulin-secreting beta-cells

GÃ¶ke R *et al* (1993) J Biol Chem 268(26)
PubMedID 8396143

Exendin-4, a glucagon-like peptide-1 receptor agonist, provides neuroprotection in mice transient focal cerebral ischemia

Teramoto S *et al* (2011) J Cereb Blood Flow Metab 31(8)
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Pharmacology of exenatide (synthetic exendin-4): a potential therapeutic for improved glycemic control of type 2 diabetes

Nielsen LL *et al* (2004) Regul Pept 117(2)
PubMedID 14700743