

# Recombinant Exendin-4

## Certificate of Analysis and Data Sheet

➤ <b>Source:</b> E.Coli	➤ <b>Catalog No.</b> HOR-269
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### ➤ **Background:**

Recombinant Exendin-4 is a glucagon like peptide-1 receptor agonist. The native hormone is produced in the gut of Gila monster *Heloderma suspectum* (a type of reptile found in the desert) that stimulates insulin production without causing threateningly low blood sugar, which can occur after using insulin and some anti-diabetes products. Recently, researchers used extracted saliva from gila monsters to create an unprecedented breakthrough in Diabetes Type 2 treatment. Exedin-4 enhances glucose-dependant insulin secretion, suppresses inappropriately elevated glucagon secretion and slows gastric emptying in vivo. It also promotes B-cell proliferation and neogenesis in vitro and in animal models. Exedin-4 stimulates an increase in acinar cAMP, without stimulating the release of amylase.

### ➤ **Description:**

Recombinant Exendin-4 is a novel 39-amino acids peptide having a molecular mass of 4186.7 dalton, which shares 53%, sequence homology with GLP-17-36 amide and interacts with the same membrane receptor.

### ➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

### ➤ **Formulation:**

The protein (1mg/ml) was lyophilized after extensive dialyses against 20mM PBS and contains 4% mannitol.

### ➤ **Solubility:**

It is recommended to reconstitute the lyophilized recombinant Exendin-4 in sterile 18M $\Omega$ -cm H<sub>2</sub>O not less than 100 $\mu$ g/ml, which can then be further diluted to other aqueous solutions.

### ➤ **Stability:**

Lyophilized Recombinant Exendin-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18<sup>0</sup> C. Upon reconstitution Recombinant Exendin-4 should be stored at 4<sup>0</sup> C between 2-7 days and for future use below -18<sup>0</sup> C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please avoid freeze-thaw cycles.**

➤ **Purity:**

Greater than 95.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Anion-exchange FPLC.

(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

➤ **Amino acid sequence:**

The sequence determined and was found to be 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.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of Recombinant Exendin-4.

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm.

2. Analysis by RP-HPLC, using a calibrated solution of Exendin-4 as a Reference Standard.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.