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- Laborgeräte & Service

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- Trockeneiszuschlag
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PRODUCT INFORMATION

GIPR Extracellular Domain (human, recombinant; aa 26-138)

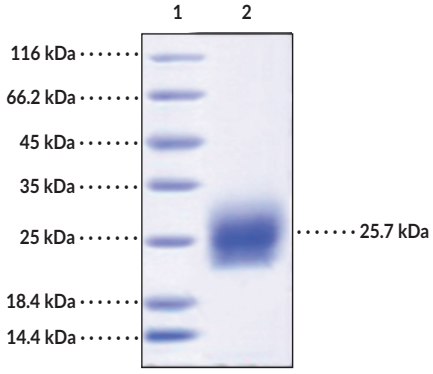
Item No. 42230

Overview and Properties

Synonyms:	Gastric Inhibitory Polypeptide Receptor, Glucose-dependent Insulinotropic Polypeptide Receptor
Source:	Active recombinant human C-terminal His-tagged GIPR extracellular domain expressed in HEK293 cells
Amino Acids:	26-138
Uniprot No.:	P48546
Molecular Weight:	14.42 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% as determined by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Protein Concentration:	***batch specific*** mg/ml
Activity:	***batch specific*** U/ml
Specific Activity:	***batch specific*** U/mg

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

Images



Lane 1: MW Markers
Lane 2: GIPR Extracellular Domain

SDS-PAGE Analysis of GIPR Extracellular Domain. This protein has a calculated molecular weight of 14.42 kDa. It has an apparent molecular mass of approximately 25.7 kDa, by SDS-PAGE, under reducing conditions due to glycosylation.

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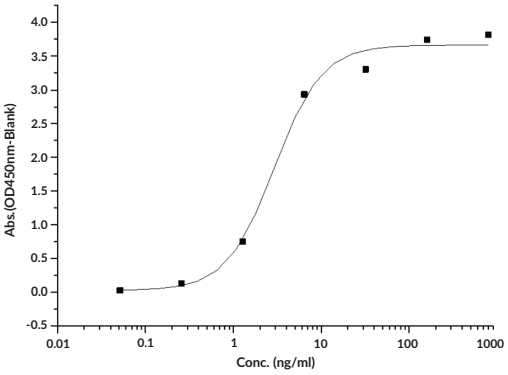

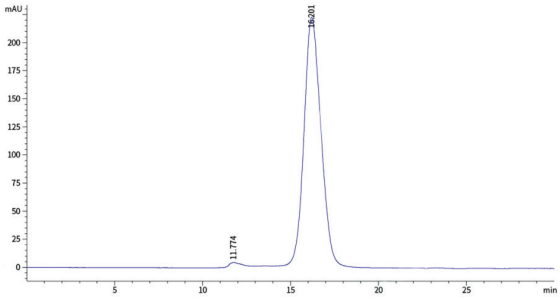

Immobilized anti-GIPR, Human IgG1 at 2 µg/ml (100 µl/well) can bind GIPR Extracellular Domain (human, recombinant; aa 26-138), the EC_{50} value is 1.5-4.5 ng/ml.

Description

Glucose-dependent insulinotropic polypeptide receptor (GIPR) is a transmembrane glycoprotein hormone receptor and class B1 G protein-coupled receptor (GPCR).[1] It is composed of an N-terminal extracellular domain required for ligand binding, seven transmembrane domains, and a C-terminal intracellular domain. GIPR is expressed in adipose tissue and the pancreas, gut, heart, pituitary gland, adrenal cortex, and brain and localizes to the plasma membrane.[2,3] It is involved in insulin and glucagon secretion, bone remodeling, and lipid metabolism, is activated by the endogenous ligands GIP (1-42) and GIP (1-30) amide, and induces primarily $G\alpha_s$ signaling.[2,4,5] Knockout of *GIPR* increases lipolysis in white adipose tissue and reduces body weight gain and fat mass in a mouse model of obesity induced by a high-fat diet.[4] SNPs in *GIPR* are associated with type 2 diabetes.[6] Cayman's GIPR Extracellular Domain (human, recombinant; aa 26-138) protein can be used for binding assays. This protein consists of 124 amino acids, has a calculated molecular weight of 14.42 kDa, and a predicted N-terminus of Gly26 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 25.7 kDa due to glycosylation.

References

1. Aksu, H., Demirbilek, A., and Uba, A.I. Insights into the structure and activation mechanism of some class B1 GPCR family members. *Mol. Biol. Rep.* **51(1),** 966 (2024).
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3. Whitaker, G.M., Lynn, F.C., McIntosh, C.H.S., *et al.* Regulation of GIP and GLP1 receptor cell surface expression by N-glycosylation and receptor heteromerization. *PLoS One* **7(3),** e32675 (2012).
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5. Rosenkilde, M.M., Lindquist, P., Kizilkaya, H.S., *et al.* GIP-derived GIP receptor antagonists - a review of their role in GIP receptor pharmacology. *Peptides* **177,** 171212 (2024).
6. Shalaby, S.M., Zidan, H.E., Shokry, A., *et al.* Association of incretin receptors genetic polymorphisms with type 2 diabetes mellitus in Egyptian patients. *J. Gene Med.* **19(9-10),** e2973 (2017).

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