SANTA CRUZ BIOTECHNOLOGY, INC.

GIPR (C-19): sc-69412

BACKGROUND

GIPR (gastric inhibitory polypeptide receptor) is a 466 amino acid protein belonging to the G protein-coupled receptor 2 family. The activity of GIPR is mediated by G proteins, which activate adenylyl cyclase. Expressed as two isoforms produced by alternative splicing, GIPR is a multi-pass cell membrane protein that acts as a receptor for the glucose-dependent insulinotropic polypeptide (GIP). GIP is a major physiologic factor in the augmentation of the Insulin response to oral glucose. GIP is a peptide hormone that is released postprandially from the small intestine and acts in concert with glucagon-like peptide GLP1 to potentiate glucose-induced Insulin secretion from the pancreatic β cell. GIP has been shown to increase adenylyl cyclase activity, elevate intracellular calcium levels, and stimulate a mitogen-activated protein kinase pathway in the pancreatic β cell. GIP release is demonstrated predominantly after ingestion of carbohydrate and fat and the effects of acid on GIP are consistent with a role for GIP as an enterogastrone.

REFERENCES

1. Yamada, Y. and Seino, Y. 2004. Physiology of GIP—a lesson from GIP receptor knockout mice. Horm. Metab. Res. 36: 771-774.
2. Boylan, M.O., et al. 2006. Sp1/Sp3 binding is associated with cell-specific expression of the glucose-dependent insulinotropic polypeptide receptor gene. Am. J. Physiol. Endocrinol. Metab. 290: E1287-E1295.
3. Marenah, L., et al. 2006. A stable analogue of glucose-dependent insulinotropic polypeptide, GIP(LysPAL16), enhances functional differentiation of mouse embryonic stem cells into cells expressing islet-specific genes and hormones. Biol. Chem. 387: 941-947.
4. Lampron, A., et al. 2006. Whole genome expression profiling of glucose-dependent insulinotropic peptide (GIP)- and adrenocorticotropin-dependent adrenal hyperplasias reveals novel targets for the study of GIP-dependent Cushing's syndrome. J. Clin. Endocrinol. Metab. 91: 3611-3618.
5. Tsukiyama, K., et al. 2006. Gastric inhibitory polypeptide as an endogenous factor promoting new bone formation after food ingestion. Mol. Endocrinol. 20: 1644-1651.
6. Irwin, N., et al. 2006. Biological activity and antidiabetic potential of synthetic fragment peptides of glucose-dependent insulinotropic polypeptide, GIP(1-16) and (Pro3)GIP(1-16). Regul. Pept. 135: 45-53.
7. Irwin, N., et al. 2007. Comparison of the anti-diabetic effects of GIP- and GLP-1-receptor activation in obese diabetic (ob/ob) mice: studies with DPP IV resistant N-AcGIP and exendin(1-39)amide. Diabetes Metab. Res. Rev. 23: 572-579.
8. Kim, S.J., et al. 2007. Activation of lipoprotein lipase by glucose-dependent insulinotropic polypeptide in adipocytes. A role for a protein kinase B, LKB1, and AMP-activated protein kinase cascade. J. Biol. Chem. 282: 8557-8567.
9. Nitz, I., et al. 2007. Association analyses of GIP and GIPR polymorphisms with traits of the metabolic syndrome. Mol. Nutr. Food Res. 51: 1046-1052.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

CHROMOSOMAL LOCATION

Genetic locus: GIPR (human) mapping to 19q13.32.

SOURCE

GIPR (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of GIPR of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-69412 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GIPR (C-19) is recommended for detection of GIPR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GIPR siRNA (h): sc-75134, GIPR shRNA Plasmid (h): sc-75134-SH and GIPR shRNA (h) Lentiviral Particles: sc-75134-V.

Molecular Weight of GIPR: 53 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.