SANTA CRUZ BIOTECHNOLOGY, INC.

GLP-1R (H-55): sc-66911

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucagon, a pancreatic hormone, functions as an antagonist to Insulin, stimulating the conversion of glycogen to glucose and increasing blood sugar levels. GLP-1 functions as a transmitter in the central nervous system, inhibiting feeding and drinking behavior. Both glucagon and GLP-1 function through their specific binding to the glucagon receptor or GLP-1R, respectively. The glucagon receptor shows expression in liver, kidney and adipose tissue. The GLP-1R expression primarily localizes to areas of the hypothalamus involved in feeding behavior. Both receptors and their ligands serve as potential targets for the therapeutic treatment of diabetes.

REFERENCES

1. Iwanij, V., et al. 1990. Characterization of the GLP-1R and its functional domains using monoclonal antibodies. J. Biol. Chem. 265: 21302-21308.
2. Rouille, Y., et al. 1995. Differential processing of proglucagon by the subtilisin-like prohormone convertases PC2 and PC3 to generate either glucagon or glucagon-like peptide. J. Biol. Chem. 270: 26488-26496.
3. Scrocchi, L.A., et al. 1996. Glucose intolerance but normal satiety in mice with a null mutation in the glucagon-like peptide 1 receptor gene. Nat. Med. 2: 1254-1258.
4. Bollen, M., et al. 1998. Specific features of glycogen metabolism in the liver. Biochem. J. 336: 19-31.
5. Jiang, G., et al. 2003. Glucagon and regulation of glucose metabolism. Am. J. Physiol. Endocrinol. Metab. 284: E671-E678.
6. Gromada, J., et al. 2004. Glucagon-like peptide-1: regulation of Insulin secretion and therapeutic potential. Basic Clin. Pharmacol. Toxicol. 95: 252-262.
7. Qureshi, S.A., et al. 2004. A novel glucagon receptor antagonist inhibits glucagon-mediated biological effects. Diabetes 53: 3267-3273.

CHROMOSOMAL LOCATION

Genetic locus: GLP1R (human) mapping to 6p21.2; Glp1r (mouse) mapping to 17 A3.3.

SOURCE

GLP-1R (H-55) is a rabbit polyclonal antibody raised against amino acids 91-145 mapping within an N-terminal extracellular domain of GLP-1R 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.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

GLP-1R (H-55) is recommended for detection of GLP-1R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

GLP-1R (H-55) is also recommended for detection of GLP-1R in additional species, including bovine and porcine.

Suitable for use as control antibody for GLP-1R siRNA (h): sc-45760, GLP-1R siRNA (m): sc-45764, GLP-1R siRNA (r): sc-270026, GLP-1R shRNA Plasmid (h): sc-45760-SH, GLP-1R shRNA Plasmid (m): sc-45764-SH, GLP-1R shRNA Plasmid (r): sc-270026-SH, GLP-1R shRNA (h) Lentiviral Particles: sc-45760-V, GLP-1R shRNA (m) Lentiviral Particles: sc-45764-V and GLP-1R shRNA (r) Lentiviral Particles: sc-270026-V.

Molecular Weight of GLP-1R: 56 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Hamilton, A., et al. 2009. Receptors for the incretin glucagon-like peptide-1 are expressed on neurons in the central nervous system. Neuroreport 20: 1161-1166.
2. Dhanesha, N., et al. 2012. Exendin-4 reduces glycemia by increasing liver glucokinase activity: an Insulin independent effect. Pharmacol. Rep. 64: 140-149.
3. Lee, J., et al. 2012. Exendin-4 improves steatohepatitis by increasing Sirt1 expression in high-fat diet-induced obese C57BL/6J mice. PLoS ONE 7: e31394.
4. Puddu, A., et al. 2013. Retinal pigment epithelial cells express a functional receptor for glucagon-like peptide-1 (GLP-1). Mediators Inflamm. 2013: 975032.