

GLP-1 (HYB 147-06): sc-57166

BACKGROUND

Glucagon is a pancreatic hormone that functions as an antagonist to Insulin, stimulating the conversion of glycogen to glucose and increasing blood sugar levels. Glucagon-like peptide-1 (GLP-1), Glucagon-like peptide-2 (GLP-2), VIP (vasoactive intestinal peptide) and PACAP (pituitary adenylate cyclase activating polypeptide) are members of the glucagon family of hormones. GLP-1 functions as a transmitter in the central nervous system, inhibiting feeding and drinking behavior, whereas GLP-2 is a stimulator of intestinal epithelial growth. VIP causes vasodilation resulting in the lowering of blood pressure. PACAP is abundant in the hypothalamus and has been shown to increase the synthesis of several hormones, including growth hormone.

REFERENCES

1. 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.
2. Moens, K., et al. 1996. Expression and functional activity of glucagon, Glucagon-like peptide-1, and Glucose-dependent Insulinotropic peptide receptors in rat pancreatic islet cells. *Diabetes* 45: 257-261.
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. Jiang, S., et al. 1997. Vasoactive intestinal peptide (VIP) stimulates *in vitro* growth of VIP-1 receptor-bearing human pancreatic adenocarcinoma-derived cells. *Cancer Res.* 57: 1475-1480.
5. Bollen, M., et al. 1998. Specific features of glycogen metabolism in the liver. *Biochem. J.* 336: 19-31.
6. Martínez-Fuentes, A.J., et al. 1998. Pituitary adenylate cyclase-activating polypeptide (PACAP) 38 and PACAP27 activate common and distinct intracellular signaling pathways to stimulate growth hormone secretion from porcine somatotropes. *Endocrinology* 139: 5116-5124.

CHROMOSOMAL LOCATION

Genetic locus: GCG (human) mapping to 2q24.2; Gcg (mouse) mapping to 2 C1.3.

SOURCE

GLP-1 (HYB 147-06) is a mouse monoclonal antibody raised against the amidated C-terminus GLP-1 (7-36).

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain 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.

APPLICATIONS

GLP-1 (HYB 147-06) is recommended for detection of precursor GLP-1 and the GLP-1(7-36) amide of mouse, rat, human and bovine origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of GLP-1: 4 kDa.

Molecular Weight of GLP-1 precursor: 19 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. Renner, E., et al. 2012. Glucagon-like peptide-1 of brainstem origin activates dorsomedial hypothalamic neurons in satiated rats. *Peptides* 35: 14-22.
2. Nausheen, S., et al. 2013. Effects of sleeve gastrectomy and ileal transposition, alone and in combination, on food intake, body weight, gut hormones, and glucose metabolism in rats. *Am. J. Physiol. Endocrinol. Metab.* 305: E507-E518.
3. Ramzy, A.R., et al. 2014. Ileal transposition surgery produces ileal length-dependent changes in food intake, body weight, gut hormones and glucose metabolism in rats. *Int. J. Obes.* 38: 379-387.
4. Kashiwara, H., et al. 2015. Duodenal-jejunal bypass improves diabetes and liver steatosis via enhanced glucagon-like peptide-1 elicited by bile acids. *J. Gastroenterol. Hepatol.* 30: 308-315.
5. Shuang, J., et al. 2015. Relief of diabetes by duodenal-jejunal bypass sleeve implantation in the high-fat diet and streptozotocin-induced diabetic rat model is associated with an increase in GLP-1 levels and the number of GLP-1-positive cells. *Exp. Ther. Med.* 10: 1355-1363.
6. Girard, R., et al. 2019. HNF4α is a novel regulator of intestinal glucose-dependent insulinotropic polypeptide. *Sci. Rep.* 9: 4200.

RESEARCH USE

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

PROTOCOLS

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