

GLP-1 (ID/GLP-1/18): sc-73508

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 VIP1 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. Martinez-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.
7. Wan, S., et al. 2007. Glucagon-like peptide-1 (GLP-1) excites pancreas-projecting preganglionic vagal motoneurons. *Am. J. Physiol. Gastrointest. Liver Physiol.* 292: G1474-G1482.
8. Pannacciulli, N., et al. 2007. Postprandial Glucagon-like peptide-1 (GLP-1) response is positively associated with changes in neuronal activity of brain areas implicated in satiety and food intake regulation in humans. *Neuroimage* 35: 511-517.
9. Thomasset, K. et al. 2007. Glucagon-like peptide-1 (GLP-1) accelerates the onset of insulin action on glucose disappearance in mice. *Am. J. Physiol. Endocrinol. Metab.* 292: E1808-E1814.

CHROMOSOMAL LOCATION

Genetic locus: GCG (human) mapping to 2q24.2.

SOURCE

GLP-1 (ID/GLP-1/18) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 7-36 of GLP-1 amide of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GLP-1 (ID/GLP-1/18) is recommended for detection of GLP-1 (7-36) amide and GLP-1 (1-30) amide of human 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); non cross-reactive with GLP-2, GRPP, PYY, VIP, PHI, GIP, Glucagon or Oxyntomodulin.

Suitable for use as control antibody for Proglucagon siRNA (h): sc-39528, Proglucagon shRNA Plasmid (h): sc-39528-SH and Proglucagon shRNA (h) Lentiviral Particles: sc-39528-V.

Molecular Weight of GLP-1: 4 kDa.

Molecular Weight of GLP-1 precursor: 19 kDa.

SELECT PRODUCT CITATIONS

1. Trabelsi, M.S., et al. 2015. Farnesoid X receptor inhibits glucagon-like peptide-1 production by enteroendocrine L cells. *Nat. Commun.* 6: 7629.
2. Zhang, T., et al. 2020. APC mutations in human colon lead to decreased neuroendocrine maturation of ALDH⁺ stem cells that alters GLP-2 and SST feedback signaling: clue to a link between WNT and retinoic acid signalling in colon cancer development. *PLoS ONE* 15: e0239601.
3. Beumer, J., et al. 2022. Mapping prohormone processing by proteases in human enteroendocrine cells using genetically engineered organoid models. *Proc. Natl. Acad. Sci. USA* 119: e2212057119.

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.

PROTOCOLS

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