

# GLP-1 (C-17): sc-7782

## 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 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GLP-1 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-7782 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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 (C-17) is recommended for detection of precursor and processed active GLP-1 of mouse, rat and human origin by 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); non cross-reactive with Glucagon or GLP-2.

GLP-1 (C-17) is also recommended for detection of precursor and processed active GLP-1 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of GLP-1: 4 kDa.

Molecular Weight of GLP-1 precursor: 19 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) 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.

## SELECT PRODUCT CITATIONS

1. Young, R.L., et al. 2009. Expression of taste molecules in the upper gastrointestinal tract in humans with and without type 2 diabetes. *Gut* 58: 337-346.
2. Gniuli, D., et al. 2010. High-fat feeding stimulates endocrine, glucose-dependent Insulinotropic polypeptide (GIP)-expressing cell hyperplasia in the duodenum of Wistar rats. *Diabetologia* 53: 2233-2240.
3. Steinert, R.E., et al. 2011. The functional involvement of gut-expressed sweet taste receptors in glucose-stimulated secretion of glucagon-like peptide-1 (GLP-1) and peptide YY (PYY). *Clin. Nutr.* 30: 524-532.
4. Encina, G., et al. 2011. Insulin is secreted upon glucose stimulation by both gastrointestinal enteroendocrine K-cells and L-cells engineered with the preproinsulin gene. *Biol. Res.* 44: 301-305.
5. Zhang, H., et al. 2012. Uncoupling protein 2 negatively regulates glucose-induced glucagon-like peptide 1 secretion. *J. Mol. Endocrinol.* 48: 151-158.
6. Daly, K., et al. 2013. Sensing of amino acids by the gut-expressed taste receptor T1R1-T1R3 stimulates CCK secretion. *Am. J. Physiol. Gastrointest. Liver Physiol.* 304: G271-G282.
7. Li, Y., et al. 2013. Gustducin couples fatty acid receptors to GLP-1 release in colon. *Am. J. Physiol. Endocrinol. Metab.* 304: E651-E660.

## RESEARCH USE

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



Try **Glucagon (C-11): sc-514592** or **GLP-2 (11E5): sc-80570**, our highly recommended monoclonal alternatives to GLP-1 (C-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Glucagon (C-11): sc-514592**.