

# PACAP (C-19): sc-7840

## 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 I, 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. 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.

## CHROMOSOMAL LOCATION

Genetic locus: ADCYAP1 (human) mapping to 18p11.32, VIP (human) mapping to 6q25.2; Adcyap1 (mouse) mapping to 17 E5, Vip (mouse) mapping to 10 A1.

## SOURCE

PACAP (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PACAP 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-7840 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

PACAP (C-19) is recommended for detection of PACAP and to a lesser extent VIP of mouse, rat and 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).

PACAP (C-19) is also recommended for detection of PACAP and to a lesser extent VIP in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of PACAP: 20 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or rat testis extract: sc-2400.

## 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.

## SELECT PRODUCT CITATIONS

1. Abu-Hamdan, M.D., et al. 2006. Pituitary adenyl cyclase-activating polypeptide (PACAP) and its receptor (PAC1-R) in the cochlea: evidence for specific transcript expression of PAC1-R splice variants in rat microdissected cochlear subfractions. *Neuroscience* 140: 147-161.
2. Drescher, M.J., et al. 2006. Pituitary adenyl cyclase-activating polypeptide (PACAP) and its receptor (PAC1-R) are positioned to modulate afferent signaling in the cochlea. *Neuroscience* 142: 139-164.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **PACAP (F-2): sc-166180**, our highly recommended monoclonal alternative to PACAP (C-19).