

# PACAP Receptor (H-55): sc-30018

## BACKGROUND

The vasoactive intestinal peptide (VIP) and the pituitary adenylate cyclase-activating polypeptide (PACAP) belong to a superfamily of peptide hormones that include glucagon, secretin and growth hormone releasing hormone. The effects of VIP and PACAP are mediated by three G protein-coupled receptors, VPAC1, VPAC2 and the PACAP Receptor (also designated PAC1-R). The VPAC receptors have equal affinities for VIP and PACAP, which stimulate the activation of adenylyl cyclase. Both VPAC1 and VPAC2 are abundantly expressed in brain and T cells, where they modulate neuronal differentiation and T cell activation, respectively. The PACAP Receptor is a seven transmembrane protein that produces at least eight isoforms by alternative splicing. Each isoform is associated with a specific signaling pathway and a specific expression pattern. The PACAP Receptor, which is thought to play an integral role in brain development, preferentially binds PACAP in order to stimulate a cAMP-protein kinase A signaling pathway.

## REFERENCES

1. Shen, S., et al. 2000. Overexpression of the human VPAC2 receptor in the suprachiasmatic nucleus alters the circadian phenotype of mice. *Proc. Natl. Acad. Sci. USA* 97: 11575-11580.
2. Shioda, S. 2000. Pituitary adenylate cyclase-activating polypeptide (PACAP) and its receptors in the brain. *Kaibogaku Zasshi* 75: 487-507.
3. Vaudry, D., et al. 2000. Pituitary adenylate cyclase-activating polypeptide and its receptors: from structure to functions. *Pharmacol. Rev.* 52: 269-324.
4. Bajo, A.M., et al. 2000. Expression of vasoactive intestinal peptide (VIP) receptors in human uterus. *Peptides* 21: 1383-1388.
5. Karacay, B., et al. 2000. Regulation of vasoactive intestinal peptide receptor expression in developing nervous systems. *Ann. N.Y. Acad. Sci.* 921: 165-174.

## CHROMOSOMAL LOCATION

Genetic locus: ADCYAP1R1 (human) mapping to 7p14.3; Adcyap1r1 (mouse) mapping to 6 B3.

## SOURCE

PACAP Receptor (H-55) is a rabbit polyclonal antibody raised against amino acids 61-115 mapping within an N-terminal extracellular domain of PACAP Receptor 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

PACAP Receptor (H-55) is recommended for detection of PACAP Receptor 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).

PACAP Receptor (H-55) is also recommended for detection of PACAP Receptor in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PACAP Receptor siRNA (h): sc-40279, PACAP Receptor siRNA (m): sc-40280, PACAP Receptor shRNA Plasmid (h): sc-40279-SH, PACAP Receptor shRNA Plasmid (m): sc-40280-SH, PACAP Receptor shRNA (h) Lentiviral Particles: sc-40279-V and PACAP Receptor shRNA (m) Lentiviral Particles: sc-40280-V.

Molecular Weight of PACAP Receptor: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## SELECT PRODUCT CITATIONS

1. Morelli, M.B., et al. 2008. Characterization, expression, and functional activity of pituitary adenylate cyclase-activating polypeptide and its receptors in human granulosa-luteal cells. *Adv. Cancer Res.* 93: 4924-4932.
2. Castorina, A., et al. 2010. Effects of PACAP and VIP on hyperglycemia-induced proliferation in murine microvascular endothelial cells. *Peptides* 31: 2276-2283.
3. Latini, S., et al. 2010. Inhibitory effect of pituitary adenylate cyclase activating polypeptide on the initial stages of rat follicle development. *Mol. Cell. Endocrinol.* 320: 34-44.
4. Giunta, S., et al. 2012. Early changes in pituitary adenylate cyclase-activating peptide, vasoactive intestinal peptide and related receptors expression in retina of streptozotocin-induced diabetic rats. *Peptides* 37: 32-39.
5. Csati, A., et al. 2012. Distribution of vasoactive intestinal peptide, pituitary adenylate cyclase-activating peptide, nitric oxide synthase, and their receptors in human and rat sphenopalatine ganglion. *Neuroscience* 202: 158-168.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **PACAP Receptor (1B5): sc-100315**, our highly recommended monoclonal alternative to PACAP Receptor (H-55).