

## VPAC2 (H-50): sc-30020

### BACKGROUND

The vasoactive intestinal peptide (VIP) and 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.

### CHROMOSOMAL LOCATION

Genetic locus: VIPR2 (human) mapping to 7q36.3; Vipr2 (mouse) mapping to 12 F2.

### SOURCE

VPAC2 (H-50) is a rabbit polyclonal antibody raised against amino acids 101-150 mapping within an internal region of VPAC2 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.

### APPLICATIONS

VPAC2 (H-50) is recommended for detection of VPAC2 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).

VPAC2 (H-50) is also recommended for detection of VPAC2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for VPAC2 siRNA (h): sc-40283, VPAC2 siRNA (m): sc-40284, VPAC2 shRNA Plasmid (h): sc-40283-SH, VPAC2 shRNA Plasmid (m): sc-40284-SH, VPAC2 shRNA (h) Lentiviral Particles: sc-40283-V and VPAC2 shRNA (m) Lentiviral Particles: sc-40284-V.

Molecular Weight of VPAC2: 65 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

### STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### SELECT PRODUCT CITATIONS

- Vaccari, S., et al. 2006. Characterization and expression of different pituitary adenylate cyclase-activating polypeptide/vasoactive intestinal polypeptide receptors in rat ovarian follicles. *J. Endocrinol.* 191: 287-299.
- Kim, B.J., et al. 2006. Vasoactive intestinal polypeptide inhibits pacemaker activity via the nitric oxide-cGMP-protein kinase G pathway in the interstitial cells of Cajal of the murine small intestine. *Mol. Cells* 21: 337-342.
- Valiante, S., et al. 2008. Pituitary adenylate cyclase-activating polypeptide, vasoactive intestinal polypeptide and their receptors: distribution and involvement in the secretion of *Podarcis sicula* adrenal gland. *J. Endocrinol.* 196: 291-303.
- Castorina, A., et al. 2008. PACAP and VIP prevent apoptosis in schwannoma cells. *Brain Res.* 1241: 29-35.
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- Castorina, A., et al. 2010. Effects of PACAP and VIP on hyperglycemia-induced proliferation in murine microvascular endothelial cells. *Peptides* 31: 2276-2283.
- 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.
- 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.
- Castorina, A., et al. 2012. Involvement of PACAP/ADNP signaling in the resistance to cell death in malignant peripheral nerve sheath tumor (MPNST) cells. *J. Mol. Neurosci.* 48: 674-683.
- Erdling, A., et al. 2013. VIP/PACAP receptors in cerebral arteries of rat: characterization, localization and relation to intracellular calcium. *Neuropeptides* 47: 85-92.

### RESEARCH USE

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

### PROTOCOLS

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