

VPAC2 (K-15): sc-15960



The Power to Question

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 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-15960 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

VPAC2 (K-15) 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), 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 (K-15) is also recommended for detection of VPAC2 in additional species, including equine, canine, bovine, porcine and avian.

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.

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

- Joo, K.M., et al. 2004. Distribution of vasoactive intestinal peptide and pituitary adenylate cyclase-activating polypeptide receptors (VPAC1, VPAC2, and PAC1 receptor) in the rat brain. *J. Comp. Neurol.* 476: 388-413.
- Sawmiller, D.R., et al. 2004. Coronary vascular effects of vasoactive intestinal peptide in the isolated perfused rat heart. *Neuropeptides* 38: 289-297.
- Fabricius, D., et al. 2006. Human plasmacytoid dendritic cell function: inhibition of IFN- α secretion and modulation of immune phenotype by vasoactive intestinal peptide. *J. Immunol.* 177: 5920-5927.
- Lee, J.C., et al. 2010. Region-specific changes in the immunoreactivity of vasoactive intestinal peptide and pituitary adenylate cyclase-activating polypeptide receptors (VPAC₂ and PAC₁ receptor) in the aged rat brains. *Brain Res.* 1351: 32-40.
- An, S., et al. 2012. Spatiotemporal distribution of vasoactive intestinal polypeptide receptor 2 in mouse suprachiasmatic nucleus. *J. Comp. Neurol.* 520: 2730-2741.
- Mahavadi, S., et al. 2013. Caveolae-dependent internalization and homologous desensitization of VIP/PACAP receptor, VPAC₂, in gastrointestinal smooth muscle. *Peptides* 43: 137-145.

RESEARCH USE

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

PROTOCOLS

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



Try **VPAC2 (5B3): sc-135604**, our highly recommended monoclonal alternative to VPAC2 (K-15).