

VPAC2 (AS69): sc-52795

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.

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. PACAP and its receptors in the brain. *Kaibogaku Zasshi* 75: 487-507.
3. Bajo, A.M., et al. 2000. Expression of VIP receptors in human uterus. *Peptides* 21: 1383-1388.
4. Karacay, B., et al. 2000. Regulation of VIP receptor expression in developing nervous systems. *Ann. N.Y. Acad. Sci.* 921: 165-174.
5. Vaudry, D., et al. 2000. Pituitary adenylate cyclase-activating polypeptide and its receptors: from structure to functions. *Pharmacol. Rev.* 52: 269-324.
6. Lara-Marquez, M., et al. 2001. Selective gene expression and activation-dependent regulation of VIP receptor type 1 and type 2 in human T cells. *J. Immunol.* 166: 2522-2530.
7. Henning, R.J., et al. 2001. VIP: cardiovascular effects. *Cardiovasc. Res.* 49: 27-37.

CHROMOSOMAL LOCATION

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

SOURCE

VPAC2 (AS69) is a mouse monoclonal antibody raised against amino acids 105-122 of VPAC2 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 500 µl 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.

APPLICATIONS

VPAC2 (AS69) 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) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

SELECT PRODUCT CITATIONS

1. Rafferty, S., et al. 2009. Rescue of functional F508del cystic fibrosis transmembrane conductance regulator by vasoactive intestinal peptide in the human nasal epithelial cell line JME/CF15. *J. Pharmacol. Exp. Ther.* 331: 2-13.
2. Alcolado, N.G., et al. 2014. Cystic fibrosis transmembrane conductance regulator dysfunction in VIP knockout mice. *Am. J. Physiol., Cell Physiol.* 307: C195-C207.
3. Ulkumen, B., et al. 2020. Role of VPAC1 and VPAC2 receptors in the etiology of pregnancy rhinitis: an experimental study in rats. *Braz. J. Otorhinolaryngol.* E-published.

RESEARCH USE

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

PROTOCOLS

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