SANTA CRUZ BIOTECHNOLOGY, INC.

VPAC2 (AS69): sc-52795

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The vasoactive intestinal peptide (VIP) and pituitary adenylate cylase-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 IgG_1 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. 2022. Role of VPAC1 and VPAC2 receptors in the etiology of pregnancy rhinitis: an experimental study in rats. Braz. J. Otorhinolaryngol. 88: 505-510.
4. Kitayama, E., et al. 2023. Functional expression of IP, 5-HT4, D1, A2A, and VIP receptors in human odontoblast cell line. Biomolecules 13: 879.

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.