SANTA CRUZ BIOTECHNOLOGY, INC.

VPAC1 (h): 293T Lysate: sc-116969

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. Pituitary adenylate cyclase-activating polypeptide (PACAP) and its receptors in the brain. Kaibogaku Zasshi 75: 487-507.
3. Bajo, A.M., et al. 2000. Expression of vasoactive intestinal peptide (VIP) receptors in human uterus. Peptides 21: 1383-1388.
4. Karacay, B., et al. 2000. Regulation of vasoactive intestinal peptide 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 vasoactive intestinal peptide receptor type 1 and type 2 in human T cells. J. Immunol. 166: 2522-2530.
7. Henning, R.J., et al. 2001. Vasoactive intestinal peptide: cardiovascular effects. Cardiovasc. Res. 49: 27-37.

CHROMOSOMAL LOCATION

Genetic locus: VIPR1 (human) mapping to 3p22.1.

PRODUCT

VPAC1 (h): 293T Lysate represents a lysate of human VPAC1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

VPAC1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive VPAC1 antibodies. Recommended use: 10-20 µl per lane.

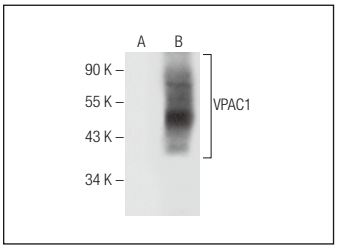
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

VPAC1 (B-4): sc-377152 is recommended as a positive control antibody for Western Blot analysis of enhanced human VPAC1 expression in VPAC1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



VPAC1 (B-4): sc-377152. Western blot analysis of VPAC1 expression in non-transfected: sc-117752 (**A**) and human VPAC1 transfected: sc-116969 (**B**) 293T whole cell lysates.

RESEARCH USE

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