

# VPAC1 (B-4): sc-377152

## 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

- 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.
- Shioda, S. 2000. Pituitary adenylate cyclase-activating polypeptide (PACAP) and its receptors in the brain. *Kaibogaku Zasshi* 75: 487-507.
- Bajo, A.M., et al. 2000. Expression of vasoactive intestinal peptide (VIP) receptors in human uterus. *Peptides* 21: 1383-1388.

## CHROMOSOMAL LOCATION

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

## SOURCE

VPAC1 (B-4) is a mouse monoclonal antibody raised against amino acids 31-160 mapping near the N-terminus of VPAC1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VPAC1 (B-4) is available conjugated to agarose (sc-377152 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377152 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377152 PE), fluorescein (sc-377152 FITC), Alexa Fluor® 488 (sc-377152 AF488), Alexa Fluor® 546 (sc-377152 AF546), Alexa Fluor® 594 (sc-377152 AF594) or Alexa Fluor® 647 (sc-377152 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377152 AF680) or Alexa Fluor® 790 (sc-377152 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

VPAC1 (B-4) is recommended for detection of VPAC1 of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VPAC1 siRNA (h): sc-40281, VPAC1 shRNA Plasmid (h): sc-40281-SH and VPAC1 shRNA (h) Lentiviral Particles: sc-40281-V.

Molecular Weight of deglycosylated VPAC1: 47 kDa.

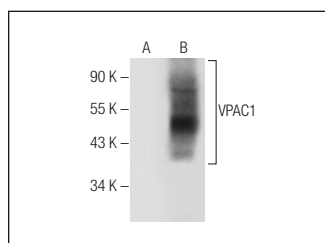
Molecular Weight of glycosylated VPAC1: 58 kDa.

Positive Controls: TE671 cell lysate: sc-2416, Caki-1 cell lysate: sc-2224 or VPAC1 (h): 293T Lysate: sc-116969.

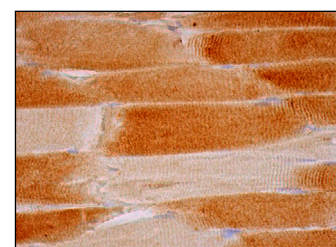
## RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## 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.



VPAC1 (B-4): sc-377152. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

- 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.

## RESEARCH USE

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