SANTA CRUZ BIOTECHNOLOGY, INC.

AVP Receptor V1a (C-20): sc-18096

BACKGROUND

Vasopressin (AVP), the antidiuretic hormone, is a cyclic nonpeptide that is involved in the regulation of body fluid osmolality. AVP mediates its effects through a family of G protein-coupled receptors, the vasopressin receptors type V1a, V2 and V3 (also designated V1b). The AVP receptor V1a is responsible for several functions, including blood vessel constriction, liver glycogenolysis and platelet adhesion. It is detected as a full length protein and a shorter protein, which results from proteolytic cleavage of its amino terminus. The V1a receptor is coupled to $G_{q/11}$ protein, which increases the intracellular calcium concentration. The human AVP receptor V2 gene maps to chromosome Xq28 and is expressed in lung and kidney. Mutations in the V2 receptor result in nephrogenic diabetes insipidus (NDI), a rare X-linked disorder characterized by the inability of the kidney to concentrate urine in response to AVP. The AVP Receptor V2 activates the G_s protein and the cyclic AMP second messenger system. The AVP receptor V3 is preferentially expressed in the pituitary and stimulates the release of adrenocorticotropic hormone (ACTH) in response to AVP by mobilizing intracellular calcium stores. AVP receptor antagonists may have potential therapeutic effects in hypertension, congestive heart failure, nephrotic syndrome and ACTH-secreting tumors.

REFERENCES

1. Thibonnier, M., et al. 1994. Molecular cloning, sequencing, and functional expression of a cDNA encoding the human V1a vasopressin receptor. J. Biol. Chem. 269: 3304-3310.
2. Sugimoto, T., et al. 1994. Molecular cloning and functional expression of a cDNA encoding the human V1b vasopressin receptor. J. Biol. Chem. 269: 27088-27092.

CHROMOSOMAL LOCATION

Genetic locus: AVPR1A (human) mapping to 12q14.2; Avpr1a (mouse) mapping to 10 D2.

SOURCE

AVP Receptor V1a (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of AVP Receptor V1a 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-18096 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.

RESEARCH USE

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

APPLICATIONS

AVP Receptor V1a (C-20) is recommended for detection of AVP Receptor V1a of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AVP Receptor V1a (C-20) is also recommended for detection of AVP Receptor V1a in additional species, including equine.

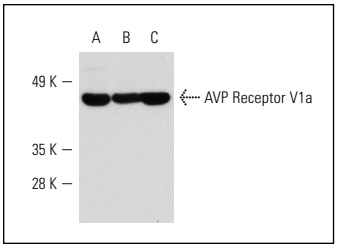
Suitable for use as control antibody for AVP Receptor V1a siRNA (h): sc-29767, AVP Receptor V1a siRNA (m): sc-29768, AVP Receptor V1a shRNA Plasmid (h): sc-29767-SH, AVP Receptor V1a shRNA Plasmid (m): sc-29768-SH, AVP Receptor V1a shRNA (h) Lentiviral Particles: sc-29767-V and AVP Receptor V1a shRNA (m) Lentiviral Particles: sc-29768-V.

Molecular Weight of glycosylated AVP Receptor V1a: 70-80 kDa.

Molecular Weight of AVP Receptor V1a: 43 kDa.

Positive Controls: C2C12 whole cell lysate: sc-364188, NCI-H1688 whole cell lysate or SHP-77 whole cell lysate: sc-364258.

DATA



AVP Receptor V1a (C-20): sc-18096. Western blot analysis of AVP Receptor V1a expression in SHP-77 (**A**), NCI-H1688 (**B**) and C2C12 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Qin, J., et al. 2009. V1 receptor in ENS mediates the excitatory effect of vasopressin on circular muscle strips of gastric body *in vitro* in rats. Regul. Pept. 157: 32-36.
2. Danalache, B.A., et al. 2010. Oxytocin-Gly-Lys-Arg: a novel cardiomyogenic peptide. PLoS ONE 5: e13643.
3. Jing, H., et al. 2011. Nitric oxide in enteric nervous system mediated the inhibitory effect of vasopressin on the contraction of circular muscle strips from colon in male rats. Neurogastroenterol. Motil. 23: e125-e135.