SANTA CRUZ BIOTECHNOLOGY, INC.

AVP Receptor V3 (D-20): sc-18105

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 $G_{\theta/11}$ 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: Avpr1b (mouse) mapping to 1 E4.

SOURCE

AVP Receptor V3 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of AVP Receptor V3 of mouse 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-18105 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 V3 (D-20) is recommended for detection of AVP Receptor V3 of mouse and rat 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), 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 AVP Receptor V3 siRNA (m): sc-40278, AVP Receptor V3 shRNA Plasmid (m): sc-40278-SH and AVP Receptor V3 shRNA (m) Lentiviral Particles: sc-40278-V.

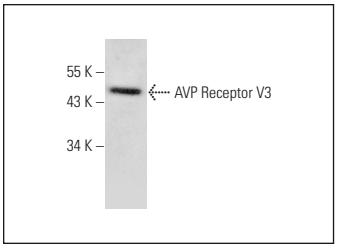
Molecular Weight of AVP Receptor V3: 47 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or PC-12 cell lysate: sc-2250.

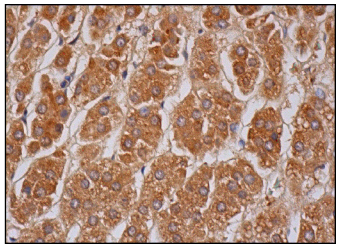
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



AVP Receptor V3 (D-20): sc-18105. Western blot analysis of AVP Receptor V3 expression in PC-12 whole cell lysate.



AVP Receptor V3 (D-20): sc-18105. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Syed, N., et al. 2007. Arginine vasopressin increases glutamate release and intracellular Ca^{2+} concentration in hippocampal and cortical astrocytes through two distinct receptors. J. Neurochem. 103: 229-237.
2. Fuchsl, A.M., et al. 2013. Mechanisms underlying the increased plasma ACTH levels in chronic psychosocially stressed male mice. PLoS ONE 8: e84161.