

# AVP Receptor V1a (V-20): sc-18094

## 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<sub>q/11</sub> 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<sub>s</sub> protein and the cyclic AMP second messenger system. The AVP receptor V3 is preferentially expressed in the pituitary and stimulates the release of adrenocorticotrophic 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.
3. Fay, M.J., et al. 1996. Evidence for expression of vasopressin V2 receptor mRNA in human lung. *Peptides* 17: 477-481.
4. Phalipou, S., et al. 1997. Mapping peptide-binding domains of the human V1a vasopressin receptor with a photoactivatable linear peptide antagonist. *J. Biol. Chem.* 272: 26536-26544.
5. Mircic, G.M., et al. 1998. Hormones of the posterior region of the hypophyseal gland. *Srp. Arh. Celok. Lek.* 126: 111-118.
6. Birnbaumer, M. 1999. Vasopressin receptor mutations and nephrogenic diabetes insipidus. *Arch. Med. Res.* 30: 465-474.

## CHROMOSOMAL LOCATION

Genetic locus: AVPR1A (human) mapping to 12q14.2.

## SOURCE

AVP Receptor V1a (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AVP Receptor V1a of human origin.

## STORAGE

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

## 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-18094 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

AVP Receptor V1a (V-20) is recommended for detection of AVP Receptor V1a of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (V-20) is also recommended for detection of AVP Receptor V1a in additional species, including equine, canine, bovine and porcine.

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

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

Molecular Weight of AVP Receptor V1a: 43 kDa.

## 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **AVP Receptor V1a (7G8): sc-134276**, our highly recommended monoclonal alternative to AVP Receptor V1a (V-20).