

AVP (G-1): sc-390702

BACKGROUND

Arginine-vasopressin (AVP) is an antidiuretic, neurohypophyseal hormone involved with body fluid homeostasis and is believed to act as an autocrine growth factor in certain cancers, such as breast cancer. The many forms of the AVP precursor have been found in Skbr3 and MCF7 cells, both at the cell surface and in secreted form. Excessive AVP secretion, regulated by specific and highly sensitive hypothalamic osmoreceptors, increases mean arterial pressure, systemic vascular resistance and stroke volume index via vasopressin V1a- and V2-mediated effects on the peripheral vasculature and on water retention. Myocardial function may be directly and adversely affected by AVP through V1a activation on myocardial contractility and cell growth. A V1-type receptor-mediated pathway caused by AVP has also proven to promote cancer growth through ERK1/2 activation. The antidiuretic action of AVP is regulated by the Vasopressin V2 receptor. AVP may also keep migraines in remission, as it promotes antinociception and influences vasomotor and behavior control. These factors make AVP a target for therapy in both acute and chronic heart failure.

REFERENCES

1. Goldsmith, S.R., et al. 2005. Vasopressin antagonism in heart failure. *J. Am. Coll. Cardiol.* 46: 1785-1791.
2. Gupta, V.K., et al. 2005. Recurrent syncope, hypotension, asthma, and migraine with aura: role of metoclopramide. *Headache* 45: 1413-1415.
3. Luckner, G., et al. 2005. Arginine Vasopressin in 316 patients with advanced vasodilatory shock. *Crit. Care. Med.* 33: 2659-2666.
4. Slusarz, M.J., et al. 2005. Investigation of mechanism of desmopressin binding in Vasopressin V2 receptor versus vasopressin V1a and oxytocin receptors—molecular dynamics simulation of the agonist-bound state in the membrane-aqueous system. *Biopolymers* 81: 321-338.
5. Keegan, B.P., et al. 2006. Provasopressin expression by breast cancer cells: implications for growth and novel treatment strategies. *Breast Cancer Res. Treat.* 95: 265-277.
6. Naeini, R.S., et al. 2006. An N-terminal variant of Trpv1 channel is required for osmosensory transduction. *Nat. Neurosci.* 9: 93-98.

CHROMOSOMAL LOCATION

Genetic locus: *Avp* (mouse) mapping to 2 F1.

SOURCE

AVP (G-1) is a mouse monoclonal antibody raised against amino acids 111-160 mapping near the C-terminus of AVP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

AVP (G-1) is recommended for detection of AVP precursor, neurophysin II and copeptin mature chains of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AVP siRNA (m): sc-155867, AVP shRNA Plasmid (m): sc-155867-SH and AVP shRNA (m) Lentiviral Particles: sc-155867-V.

Molecular Weight (predicted) of AVP: 17 kDa.

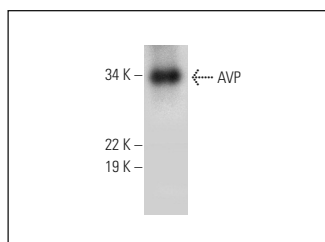
Molecular Weight (observed) of AVP: 33 kDa.

Positive Controls: mouse pituitary gland extract: sc-364246.

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, 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 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.

DATA



AVP (G-1): sc-390702. Western blot analysis of AVP expression in mouse pituitary gland tissue extract.

RESEARCH USE

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

PROTOCOLS

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