

# CAPS-1 (P-18): sc-65012

## BACKGROUND

Calcium-dependent secretion activators (CAPS-1 and CAPS-2) are calcium-binding proteins that direct neurotransmitter and neuropeptide-filled vesicles to the cell membrane for secretory granule exocytosis. Both CAPS-1 and CAPS-2 are expressed primarily in the brain where they regulate the secretion of various substances. The CAPS proteins contain a PH domain that is essential for regulation of exocytosis, as well as regulation of phospholipid binding. Through their regulation of neurotrophin release from granule cells, CAPS proteins help to regulate cell fate during neuronal development. CAPS-1 is thought to regulate catecholamine release from neuronal cells, while CAPS-2 is thought to regulate release of both brain-derived neurotrophic factor (BDNF) and neurotrophin-3 (NT-3) from granule cells. Defects in the genes encoding CAPS-1 and CAPS-2 are implicated in impaired cerebral development and autism.

## REFERENCES

1. Cisternas, F.A., et al. 2003. Cloning and characterization of human CADPS and CADPS2, new members of the Ca<sup>2+</sup>-dependent activator for secretion protein family. *Genomics* 81: 279-291.
2. Speidel, D., et al. 2003. A family of Ca<sup>2+</sup>-dependent activator proteins for secretion: comparative analysis of structure, expression, localization, and function. *J. Biol. Chem.* 278: 52802-52809.
3. Grishanin, R.N., et al. 2004. CAPS acts at a pre-fusion step in dense-core vesicle exocytosis as a PIP2 binding protein. *Neuron* 43: 551-562.
4. Speidel, D., et al. 2005. CAPS-1 regulates catecholamine loading of large dense-core vesicles. *Neuron* 46: 75-88.
5. Sadakata, T., et al. 2006. Differential distributions of the Ca<sup>2+</sup>-dependent activator protein for secretion family proteins (CAPS-2 and CAPS-1) in the mouse brain. *J. Comp. Neurol.* 495: 735-753.
6. Sadakata, T., et al. 2006. Identification and mRNA expression of Ogdh, QP-C, and two predicted genes in the postnatal mouse brain. *Neurosci. Lett.* 405: 217-222.
7. Sadakata, T., et al. 2007. Tissue distribution of Ca<sup>2+</sup>-dependent activator protein for secretion family members CAPS-1 and CAPS-2 in mice. *J. Histochem. Cytochem.* 55: 301-311.
8. Sadakata, T., et al. 2007. Impaired cerebellar development and function in mice lacking CAPS-2, a protein involved in neurotrophin release. *J. Neurosci.* 27: 2472-2482.

## CHROMOSOMAL LOCATION

Genetic locus: CADPS (human) mapping to 3p14.2; Cadps (mouse) mapping to 14 A1.

## SOURCE

CAPS-1 (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CAPS-1 of human origin.

## RESEARCH USE

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

## 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-65012 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CAPS-1 (P-18) is recommended for detection of CAPS-1 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).

CAPS-1 (P-18) is also recommended for detection of CAPS-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CAPS-1 siRNA (h): sc-62076, CAPS-1 siRNA (m): sc-62077, CAPS-1 shRNA Plasmid (h): sc-62076-SH, CAPS-1 shRNA Plasmid (m): sc-62077-SH, CAPS-1 shRNA (h) Lentiviral Particles: sc-62076-V and CAPS-1 shRNA (m) Lentiviral Particles: sc-62077-V.

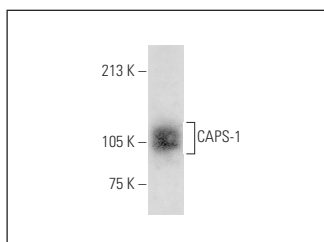
Molecular Weight of CAPS-1: 145 kDa.

Positive Controls: rat brain extract: sc-2392.

## 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.

## DATA



CAPS-1 (P-18): sc-65012. Western blot analysis of CAPS-1 expression in rat brain tissue extract.

## STORAGE

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