

CAPS-2 (P-20): sc-65014

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 and neurotrophin-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 Ca²⁺-dependent activator for secretion protein family. *Genomics* 81: 279-291.
2. Speidel, D., et al. 2003. A family of Ca²⁺-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.

CHROMOSOMAL LOCATION

Genetic locus: CADPS2 (human) mapping to 7q31.32; Cadps2 (mouse) mapping to 6 A3.1.

SOURCE

CAPS-2 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CAPS-2 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-65014 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

CAPS-2 (P-20) is recommended for detection of CAPS-2 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), 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).

CAPS-2 (P-20) is also recommended for detection of CAPS-2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for CAPS-2 siRNA (h): sc-62078, CAPS-2 siRNA (m): sc-62079, CAPS-2 shRNA Plasmid (h): sc-62078-SH, CAPS-2 shRNA Plasmid (m): sc-62079-SH, CAPS-2 shRNA (h) Lentiviral Particles: sc-62078-V and CAPS-2 shRNA (m) Lentiviral Particles: sc-62079-V.

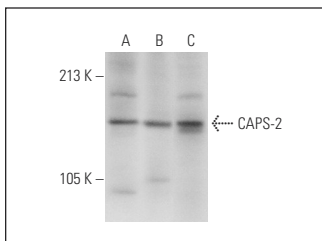
Molecular Weight of CAPS-2: 148 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

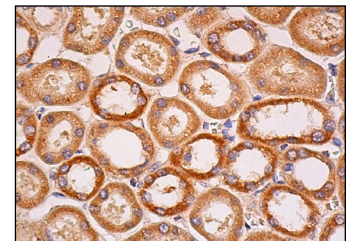
RECOMMENDED SECONDARY REAGENTS

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



CAPS-2 (P-20): sc-65014. Western blot analysis of CAPS-2 expression in HEK293 (A), Jurkat (B) and K-562 (C) whole cell lysates.



CAPS-2 (P-20): sc-65014. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Cuneo, K.C., et al. 2013. Imaging primary mouse sarcomas after radiation therapy using cathepsin-activatable fluorescent imaging agents. *Int. J. Radiat. Oncol. Biol. Phys.* 86: 136-142.