

CaBP4 (C-16): sc-28094

BACKGROUND

The calcium binding protein (CaBP) family shares much similarity to calmodulin. It has been shown that CaBP proteins can substitute functionally for, and probably augment the function of, calmodulin. Calcium binding proteins are a crucial part of calcium mediated cellular signal transduction in the central nervous system. There are several members of the family with varying expression patterns. CaBP1 and CaBP2 can be expressed as multiple, alternatively spliced variants in brain and retina. CaBP3, CaBP4 and CaBP5 are restricted to retinal rod and cone cells.

REFERENCES

1. Peter, F., Nguyen, Van P. and Soling, H.D. 1992. Different sorting of Lys-Asp-Glu-Leu proteins in rat liver. *J. Biol. Chem.* 267: 10631-10637.
2. Janson, I.M., Ek, B. and Ek, P. 1997. Phosphorylation of CaBP1 and CaBP2 by protein kinase CK2. *J. Biochem.* 121: 112-117.
3. Haeseleer, F., Sokal, I., Verlinde, C.L., Erdjument-Bromage, H., Tempst, P., Pronin, A.N., Benovic, J.L., Fariss, R.N. and Palczewski, K. 2000. Five members of a novel Ca²⁺-binding protein (CaBP) subfamily with similarity to calmodulin. *J. Biol. Chem.* 275: 1247-1260.
4. Haeseleer, F., Imanishi, Y., Maeda, T., Possin, D.E., Maeda, A., Lee, A., Rieke, F. and Palczewski, K. 2004. Essential role of Ca²⁺-binding protein 4, a Cav1.4 channel regulator, in photoreceptor synaptic function. *Nat. Neurosci.* 7: 1079-1087.
5. Maeda, T., Lem, J., Palczewski, K. and Haeseleer, F. 2005. A critical role of CaBP4 in the cone synapse. *Invest. Ophthalmol. Vis. Sci.* 46: 4320-4327.
6. Zeitz, C., Kloeckener-Gruissem, B., Forster, U., Kohl, S., Magyar, I., Wissinger, B., Mátyás, G., Borruat, F.X., Schorderet, D.F., Zrenner, E., Munier, F.L. and Berger, W. 2006. Mutations in CABP4, the gene encoding the Ca²⁺-binding protein 4, cause autosomal recessive night blindness. *Am. J. Hum. Genet.* 79: 657-667.
7. Lee, A., Jimenez, A., Cui, G. and Haeseleer, F. 2007. Phosphorylation of the Ca²⁺-binding protein CaBP4 by protein kinase C ζ in photoreceptors. *J. Neurosci.* 27: 12743-12754.
8. Haeseleer, F. 2008. Interaction and co-localization of CaBP4 and Unc119 (MRG4) in photoreceptors. *Invest. Ophthalmol. Vis. Sci.* 9: 2366-2375.

CHROMOSOMAL LOCATION

Genetic locus: CABP4 (human) mapping to 11q13.2.

SOURCE

CaBP4 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CaBP4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-28094 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CaBP4 (C-16) is recommended for detection of CaBP4 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).

CaBP4 (C-16) is also recommended for detection of CaBP4 in additional species, including porcine.

Suitable for use as control antibody for CaBP4 siRNA (h): sc-105173, CaBP4 shRNA Plasmid (h): sc-105173-SH and CaBP4 shRNA (h) Lentiviral Particles: sc-105173-V.

Molecular Weight (predicted) of CaBP4 isoforms: 30/20 kDa.

Molecular Weight (observed) of CaBP4: 35 kDa.

Positive Controls: Y79 cell lysate: sc-2240.

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.

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.

PROTOCOLS

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