SANTA CRUZ BIOTECHNOLOGY, INC.

CaBP4 (H-9): sc-514768

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 CaBP 5 are restricted to retinal rod and cone cells.

REFERENCES

1. Peter, F., et al. 1992. Different sorting of Lys-Asp-Glu-Leu proteins in rat liver. J. Biol. Chem. 267: 10631-10637.
2. Janson, I.M., et al. 1997. Phosphorylation of CaBP1 and CaBP2 by protein kinase CK2. J. Biochem. 121: 112-117.
3. Haeseleer, F., et al. 2000. Five members of a novel Ca^{2+}-binding protein (CaBP) subfamily with similarity to calmodulin. J. Biol. Chem. 275: 1247-1260.
4. Haeseleer, F., et al. 2004. Essential role of Ca^{2+}-binding protein 4, a $Ca_v1.4$ channel regulator, inphotoreceptor synaptic function. Nat. Neurosci. 7: 1079-1087.
5. Maeda, T., et al. 2005. A critical role of CaBP4 in the cone synapse. Invest. Ophthalmol. Vis. Sci. 46: 4320-4327.
6. Zeitz, C., et al. 2006. Mutations in CaBP4, the gene encoding the Ca^{2+}-binding protein 4, cause autosomal recessive night blindness. Am. J. Hum. Genet. 79: 657-667.
7. Lee, A., et al. 2007. Phosphorylation of the Ca^{2+}-binding protein CaBP4 by protein kinase C ζ in photoreceptors. J. Neurosci. 27: 12743-12754.
8. Haeseleer, F. 2008. Interaction and colocalization of CaBP4 and UNC119 (MRG4) in photoreceptors. Invest. Ophthalmol. Vis. Sci. 9: 2366-2375.
9. Littink, K.W., et al. 2009. A novel homozygous nonsense mutation in CABP4 causes congenital cone-rod synaptic disorder. Invest. Ophthalmol. Vis. Sci. 50: 2344-2350.

CHROMOSOMAL LOCATION

Genetic locus: Cabp4 (mouse) mapping to 19 A.

SOURCE

CaBP4 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 60-87 within an internal region of CaBP4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514768 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CaBP4 (H-9) is recommended for detection of CaBP4 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 CaBP4 siRNA (m): sc-141963, CaBP4 shRNA Plasmid (m): sc-141963-SH and CaBP4 shRNA (m) Lentiviral Particles: sc-141963-V.

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

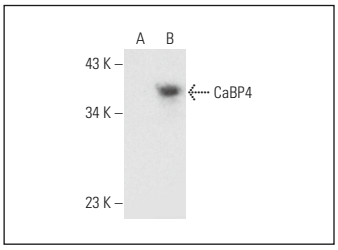
Molecular Weight (observed) of CaBP4: 35 kDa.

Positive Controls: CaBP4 (m): 293T Lysate: sc-118947.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CaBP4 (H-9): sc-514768. Western blot analysis of CaBP4 expression in non-transfected: sc-117752 (**A**) and mouse CaBP4 transfected: sc-118947 (**B**) 293T whole cell lysates.

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 for detailed protocols and support products.