SANTA CRUZ BIOTECHNOLOGY, INC.

spectrin α II (C-20): sc-7465

BACKGROUND

Spectrin, an actin binding protein that is a major component of the cytoskeletal superstructure of the erythrocyte plasma membrane, is essential in determining the properties of the membrane including its shape and deformability. Spectrins function as membrane organizers and stabilizers, composed of non-homologous α and β chains, which aggregate side-to-side in an antiparallel fashion to form dimers, tetramers and higher polymers. spectrin α I and spectrin β I are present in erythrocytes, whereas spectrin α II (also designated fodrin α) and spectrin β II (also designated fodrin β) are present in other somatic cells. The spectrin tetramers in erythrocytes act as barriers to lateral diffusion, but spectrin dimers seem to lack this function. Activation of calpain results in the breakdown of spectrin α II, a neuronal cytoskeleton protein.

CHROMOSOMAL LOCATION

Genetic locus: SPTAN1 (human) mapping to 9q34.11; Spna2 (mouse) mapping to 2 B.

SOURCE

spectrin α II (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of spectrin α II 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-7465 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

spectrin α II (C-20) is recommended for detection of spectrin α II 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).

spectrin α II (C-20) is also recommended for detection of spectrin α II in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for spectrin α II siRNA (h): sc-36549, spectrin α II siRNA (m): sc-36550, spectrin α II shRNA Plasmid (h): sc-36549-SH, spectrin α II shRNA Plasmid (m): sc-36550-SH, spectrin α II shRNA (h) Lentiviral Particles: sc-36549-V and spectrin α II shRNA (m) Lentiviral Particles: sc-36550-V.

Molecular Weight of spectrin α II precursor: 240 kDa.

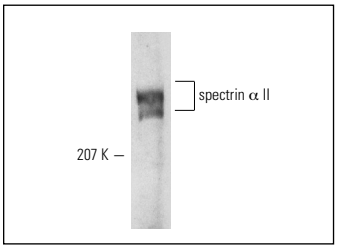
Molecular Weight of spectrin α II cleavage products: 150/120/110 kDa.

Positive Controls: Hs68 cell lysate: sc-2230, TF-1 cell lysate: sc-2412 or rat brain extract: sc-2392.

STORAGE

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

DATA



spectrin α II (C-20): sc-7465. Western blot analysis of spectrin α II expression in rat brain extract.

SELECT PRODUCT CITATIONS

1. Dourdin, N., et al. 2001. Reduced cell migration and disruption of the actin cytoskeleton in Calpain-deficient embryonic fibroblasts. J. Biol. Chem. 276: 48382-48388.
2. Manya, H., et al. 2002. Klotho protein deficiency leads to overactivation of μ-calpain. J. Biol. Chem. 277: 35503-35508.
3. Nacarro-García, F., et al. 2004. The serine protease motif of EspC from enteropathogenic *Escherichia coli* produces epithelial damage by a mechanism different from that of pet toxin from enteroaggregative *E. coli*. Infect. Immun. 72: 3609-3621.
4. Street, M., et al. 2006. Stimulation of $G_{\alpha q}$-coupled M1 muscarinic receptor causes reversible spectrin redistribution mediated by PLC, PKC and ROCK. J. Cell Sci. 119: 1528-1536.
5. Fifre, A., et al. 2006. Microtubule-associated protein MAP-1A, MAP-1B, and MAP-2 proteolysis during soluble amyloid β-peptide-induced neuronal apoptosis. Synergistic involvement of calpain and caspase-3. J. Biol. Chem. 281: 229-240.
6. Holaska, J.M., et al. 2007. An emerin "proteome": purification of distinct emerin-containing complexes from HeLa cells suggests molecular basis for diverse roles including gene regulation, mRNA splicing, signaling, mechanosensing, and nuclear architecture. Biochemistry 46: 8897-8908.
7. Wu, Y., et al. 2007. Truncations of amphiphysin I by calpain inhibit vesicle endocytosis during neural hyperexcitation. EMBO J. 26: 2981-2990.

RESEARCH USE

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