SANTA CRUZ BIOTECHNOLOGY, INC.

spectrin β V (C-13): sc-104664

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 nonhomologous α and β chains, which aggregate side-to-side in an antiparallel fashion to form dimers, tetramers, and higher polymers. The spectrin tetramers in erythrocytes act as barriers to lateral diffusion, but spectrin dimers seem to lack this function. Spectrin β V is a non-erythrocytic member of the β-spectrin family. It is expressed in brain and pancreatic islets and localizes to the cytoplasm of the cytoskeleton and cell cortex. Spectrin β V is a 2,564 amino acid protein with four isoforms due to alternative splicing events.

REFERENCES

1. Speicher, D.W. 1986. The present status of erythrocyte spectrin structure: the 106-residue repetitive structure is a basic feature of an entire class of proteins. J. Cell Biochem. 30: 245-258.
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3. Coleman, T.R., et al. 1989. Functional diversity among spectrin isoforms. Cell Motil. Cytoskeleton 12: 225-247.
4. Kennedy, S.P., et al. 1994. A partial structural repeat forms the heterodimer self-association site of all β spectrins. J. Biol. Chem. 269: 11400-11408.
5. Saxton, M.J. 1989. The spectrin network as a barrier to lateral diffusion in erythrocytes. A percolation analysis. Biophys. J. 55: 21-28.
6. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 273-281.
7. Tse, W.T., et al. 2001. A new spectrin, β IV, has a major truncated isoform that associates with promyelocytic leukemia protein nuclear bodies and the nuclear matrix. J. Biol. Chem. 276: 23974-23985.
8. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605916. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
9. Boulanger, L., et al. 2002. Erythroid expression of the human α spectrin gene promoter is mediated by GATA-1- and NF-E2-binding proteins. J. Biol. Chem. 277: 41563-41570.

CHROMOSOMAL LOCATION

Genetic locus: SPTBN5 (human) mapping to 15q15.1.

STORAGE

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

PROTOCOLS

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

SOURCE

spectrin β V (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of spectrin β V 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-104664 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

spectrin β V (C-13) is recommended for detection of spectrin β V 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).

Suitable for use as control antibody for spectrin β V siRNA (h): sc-89958, spectrin β V shRNA Plasmid (h): sc-89958-SH and spectrin β V shRNA (h) Lentiviral Particles: sc-89958-V.

Molecular Weight of spectrin β V: 289 kDa.

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.

RESEARCH USE

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