SANTA CRUZ BIOTECHNOLOGY, INC.

spectrin β I (H-60): sc-28271

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 anti-parallel 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.

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.
2. Gardner, K. and Bennett, V. 1987. Modulation of spectrin-actin assembly by erythrocyte adducin. Nature 328: 359-362.
3. Coleman, T.R., Fishkind, D.J., Mooseker, M.S. and Morrow, J.S. 1989. Functional diversity among spectrin isoforms. Cell Motil. Cytoskeleton 12: 225-247.
4. Saxton, M.J. 1989. The spectrin network as a barrier to lateral diffusion in erythrocytes. A percolation analysis. Biophys. J. 55: 21-28.
5. Fowler, V.M. and Adam, E.J. 1992. Spectrin redistributes to the cytosol and is phosphorylated during mitosis in cultured cells. J. Cell Biol. 119: 1559-1572.

CHROMOSOMAL LOCATION

Genetic locus: SPTB (human) mapping to 14q23.3; Spnb1 (mouse) mapping to 12 C3.

SOURCE

spectrin β I (H-60) is a rabbit polyclonal antibody raised against amino acids 2078-2137 mapping at the C-terminus of spectrin β I 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.

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.

APPLICATIONS

spectrin β I (H-60) is recommended for detection of spectrin β I 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).

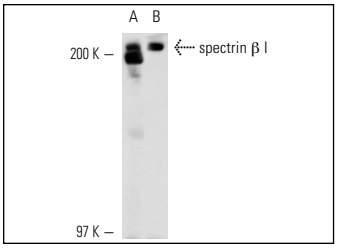
Suitable for use as control antibody for spectrin β I siRNA (h): sc-36547, spectrin β I siRNA (m): sc-36548, spectrin β I shRNA Plasmid (h): sc-36547-SH, spectrin β I shRNA Plasmid (m): sc-36548-SH, spectrin β I shRNA (h) Lentiviral Particles: sc-36547-V and spectrin β I shRNA (m) Lentiviral Particles: sc-36548-V.

Molecular Weight (predicted) of spectrin β I: 246 kDa.

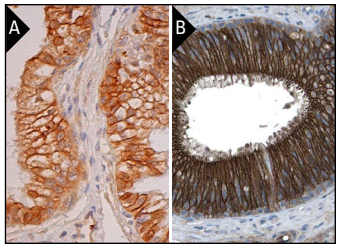
Molecular Weight (observed) of spectrin β I: 188-277 kDa.

Positive Controls: rat heart extract: sc-2393, HEL 92.1.7 cell lysate: sc-2270 or SK-N-SH cell lysate: sc-2410.

DATA



spectrin β I (H-60): sc-28271. Western blot analysis of spectrin β I expression in SK-N-SH (**A**) and HEL 92.1.7 (**B**) whole cell lysates.



spectrin β I (H-60): sc-28271. Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing membrane and cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing membrane and cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

RESEARCH USE

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