SANTA CRUZ BIOTECHNOLOGY, INC.

spectrin α I (H-110): sc-15371

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. Defects of spectrin α I are present in the erythrocytes of many patients with abnormalities of red blood cell shape including hereditary spherocytosis and elliptocytosis.

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., et al. 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. 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.
6. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 182860. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. 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.
8. SWISS-PROT/TrEMBL (P02549). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: SPTA1 (human) mapping to 1q23.1; Spna1 (mouse) mapping to 1 H3.

SOURCE

spectrin α I (H-110) is a rabbit polyclonal antibody raised against amino acids 541-650 of spectrin α 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.

APPLICATIONS

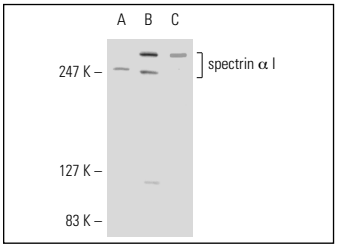
spectrin α I (H-110) is recommended for detection of spectrin α I of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for spectrin α I siRNA (h): sc-43430, spectrin α I siRNA (m): sc-43431, spectrin α I shRNA Plasmid (h): sc-43430-SH, spectrin α I shRNA Plasmid (m): sc-43431-SH, spectrin α I shRNA (h) Lentiviral Particles: sc-43430-V and spectrin α I shRNA (m) Lentiviral Particles: sc-43431-V.

Molecular Weight of spectrin α I: 230-280 kDa.

Positive Controls: Hel 92.1.7 cell lysate: sc-2270, K-562 whole cell lysate: sc-2203 or rat heart extract: sc-2393.

DATA



spectrin α I (H-110): sc-15371. Western blot analysis of spectrin α I expression in HEL 92.1.7 (**A**) and K-562 (**B**) whole cell lysates and rat heart tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Stellacci, E., et al. 2009. Interaction between the glucocorticoid and erythropoietin receptors in human erythroid cells. Exp. Hematol. 37: 559-572.
2. Díaz-Hernández, J.I., et al. 2015. Age-related nuclear translocation of P2X6 subunit modifies splicing activity interacting with splicing factor 3A1. PLoS ONE 10: e0123121.

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.

MONOS Satisfaction Guaranteed

Try **spectrin α I (B-12): sc-271130** or **spectrin α I (IID2): sc-53900**, our highly recommended monoclonal alternatives to spectrin α I (H-110).