

# spectrin $\beta$ II (K-17): sc-26915

## BACKGROUND

Spectrin is an actin-binding protein that is a major component of the cytoskeletal superstructure of the erythrocyte plasma membrane. Spectrins function as membrane organizers and stabilizers by forming dimers, tetramers and higher polymers. Spectrin  $\alpha$  I and spectrin  $\beta$  I are present in erythrocytes, whereas spectrin  $\alpha$  II (also designated fodrin  $\alpha$ ) and spectrin  $\beta$  II (also designated fodrin  $\beta$ ) 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. Spectrin  $\beta$  II, which is involved in secretion, interacts with calmodulin in a calcium-dependent manner and is thus a candidate for the calcium-dependent movement of the cytoskeleton at the membrane. The human SPTBN1 gene maps to chromosome 2p16.2 and encodes the nonerythroid form of  $\beta$ -spectrin.

## 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. Coelman, 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. Prchal, J.T., et al. 1990. Patterns of spectrin transcripts in erythroid and non-erythroid cells. *J. Cell. Physiol.* 144: 287-294.
6. Chang, J.G., et al. 1993. Cloning of a portion of the chromosomal gene and cDNA for human  $\beta$ -fodrin, the nonerythroid form of  $\beta$ -spectrin. *Genomics* 17: 287-293.
7. Ma, Y., et al. 1993. The complete amino acid sequence for brain  $\beta$  spectrin ( $\beta$  fodrin): relationship to globin sequences. *Brain Res. Mol. Brain Res.* 18: 87-99.

## CHROMOSOMAL LOCATION

Genetic locus: SPTBN1 (human) mapping to 2p16.2; Spnb2 (mouse) mapping to 11 A3.3.

## SOURCE

spectrin  $\beta$  II (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of spectrin  $\beta$  II of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26915 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

spectrin  $\beta$  II (K-17) is recommended for detection of spectrin  $\beta$  II of mouse, rat and 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).

spectrin  $\beta$  II (K-17) is also recommended for detection of spectrin  $\beta$  II in additional species, including equine, canine and bovine.

Suitable for use as control antibody for spectrin  $\beta$  II siRNA (h): sc-36551, spectrin  $\beta$  II siRNA (m): sc-36552, spectrin  $\beta$  II shRNA Plasmid (h): sc-36551-SH, spectrin  $\beta$  II shRNA Plasmid (m): sc-36552-SH, spectrin  $\beta$  II shRNA (h) Lentiviral Particles: sc-36551-V and spectrin  $\beta$  II shRNA (m) Lentiviral Particles: sc-36552-V.

Molecular Weight of spectrin  $\beta$  II: 240/270 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or SK-N-SH cell lysate: sc-2410.

## 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **spectrin  $\beta$  II (F-7): sc-515592** or **spectrin  $\beta$  II (F-11): sc-376487**, our highly recommended monoclonal alternatives to spectrin  $\beta$  II (K-17).