

spectrin β IV (C-16): sc-131788

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 anti-parallel 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 IV is a non-erythrocytic member of the spectrin β family. It is expressed in brain and pancreatic islets and localizes to the nuclear matrix, cytoplasmic vesicles and PML nuclear bodies. Spectrin β IV is a 2,564 amino acid protein with 4 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.
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. Kennedy, S.P., Weed, S.A., Forget, B.G. and Morrow, J.S. 1994. A partial structural repeat forms the heterodimer self-association site of all β -spectrins. *J. Biol. Chem.* 269: 11400-11408.

CHROMOSOMAL LOCATION

Genetic locus: SPTBN4 (human) mapping to 19q13.2; Spnb4 (mouse) mapping to 7 A3.

SOURCE

spectrin β IV (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of spectrin β IV of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-131788 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

spectrin β IV (C-16) is recommended for detection of spectrin β IV isoforms 1 and 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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); non cross-reactive with spectrin β IV isoforms 2 or 4.

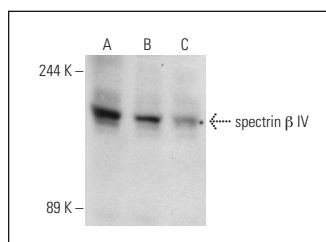
spectrin β IV (C-16) is also recommended for detection of spectrin β IV isoforms 1 and 3 in additional species, including canine and bovine.

Suitable for use as control antibody for spectrin β IV siRNA (h): sc-97805, spectrin β IV siRNA (m): sc-153737, spectrin β IV shRNA Plasmid (h): sc-97805-SH, spectrin β IV shRNA Plasmid (m): sc-153737-SH, spectrin β IV shRNA (h) Lentiviral Particles: sc-97805-V and spectrin β IV shRNA (m) Lentiviral Particles: sc-153737-V.

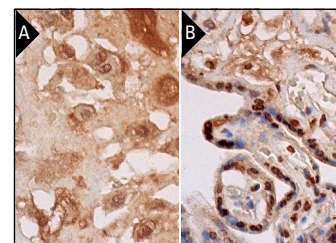
Molecular Weight of spectrin β IV: 289 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, SK-N-MC cell lysate: sc-2237 or U-87 MG cell lysate: sc-2411.

DATA



spectrin β IV (C-16): sc-131788. Western blot analysis of spectrin β IV expression in IMR-32 (A), SK-N-MC (B) and U-87 MG (C) whole cell lysates.



spectrin β IV (C-16): sc-131788. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear and cytoplasmic staining of decidual cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear and cytoplasmic staining of trophoblastic cells (B).

PROTOCOLS

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Try **spectrin β IV (F-5): sc-398506** or **spectrin β IV (D-7): sc-514744**, our highly recommended monoclonal alternatives to spectrin β IV (C-16).