SANTA CRUZ BIOTECHNOLOGY, INC.

PRNPIP (F-3): sc-515164

BACKGROUND

Prion diseases, or transmissible spongiform encephalopathies (TSEs), are manifested as genetic, infectious or sporadic, lethal neurodegenerative disorders involving alterations of the prion protein (PrP). Characteristic of prion diseases, cellular PrP (PrPc) is converted to the disease form, PrPSc, through alterations in the protein folding conformations. PrPc is constitutively expressed in normal adult brain and is sensitive to proteinase K (PK) digestion, while the altered PrPSc conformation is resistant to proteases, resulting in a distinct molecular mass after PK treatment. PRNPIP (prion protein-interacting protein), also known as ERI1 exoribonuclease 3 and PINT (prion interactor 1), is a 337 amino acid protein that interacts with PrP. PRNPIP is strongly expressed in brain, thyroid, testis and heart. There are three isoforms of PRNPIP that are produced as a result of alternative splicing events.

REFERENCES

1. Spielhaupter, C., et al. 2001. PrPC directly interacts with proteins involved in signaling pathways. J. Biol. Chem. 276: 44604-44612.
2. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609917. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Nicolas, O., et al. 2009. New insights into cellular prion protein (PrPc) functions: the "ying and yang" of a relevant protein. Brain Res. Rev. 61: 170-184.
4. Kupfer, L., et al. 2009. Prion protein misfolding. Curr. Mol. Med. 9: 826-835.
5. Weissmann, C. 2009. Thoughts on mammalian prion strains. Folia Neuropathol. 47: 104-113.
6. Aguzzi, A. and Calella, A.M. 2009. Prions: protein aggregation and infectious diseases. Physiol. Rev. 89: 1105-1152.
7. Mehrpour, M. and Codogno, P. 2010. Prion protein: from physiology to cancer biology. Cancer Lett. 290: 1-23.
8. Silva, J.L., et al. 2010. PrP interactions with nucleic acids and glycosaminoglycans in function and disease. Front. Biosci. 15: 132-150.

CHROMOSOMAL LOCATION

Genetic locus: ERI3 (human) mapping to 1p34.1; Eri3 (mouse) mapping to 4 D2.1.

SOURCE

PRNPIP (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 281-300 near the C-terminus of PRNPIP of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515164 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PRNPIP (F-3) is recommended for detection of PRNPIP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 PRNPIP siRNA (h): sc-88263, PRNPIP siRNA (m): sc-152474, PRNPIP shRNA Plasmid (h): sc-88263-SH, PRNPIP shRNA Plasmid (m): sc-152474-SH, PRNPIP shRNA (h) Lentiviral Particles: sc-88263-V and PRNPIP shRNA (m) Lentiviral Particles: sc-152474-V.

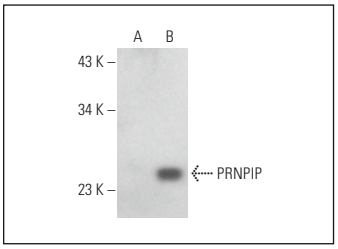
Molecular Weight of PRNPIP isoforms 1/2/3: 37/25/15 kDa.

Positive Controls: PRNPIP (m): 293T Lysate: sc-125856.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PRNPIP (F-3): sc-515164. Western blot analysis of PRNPIP expression in non-transfected: sc-117752 (**A**) and mouse PRNPIP transfected: sc-125856 (**B**) 293T whole cell lysates.

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 for detailed protocols and support products.