SANTA CRUZ BIOTECHNOLOGY, INC.

PrP (M-20): sc-7694

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 digestion, while the altered PrPSc conformation is resistant to proteases, resulting in a distinct molecular mass after PK treatment. Consistent with the transient infection process of prion diseases, incubation of PrPc with PrPSc both *in vitro* and *in vivo* produces PrPc that is resistant to protease degradation. Infectious PrPSc is found at high levels in the brains of animals affected by TSEs, including scrapie in sheep, BSE in cattle and Cruetzfeldt-Jakob disease in humans.

CHROMOSOMAL LOCATION

Genetic locus: Prnp (mouse) mapping to 2 F2.

SOURCE

PrP (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PrP of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7694 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin (sc-7694 PE) conjugate for flow cytometry, 100 tests.

APPLICATIONS

PrP (M-20) is recommended for detection of PrP of mouse and rat 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PrP siRNA (m): sc-36319, PrP shRNA Plasmid (m): sc-36319-SH and PrP shRNA (m) Lentiviral Particles: sc-36319-V.

Molecular Weight of PrP: 30 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

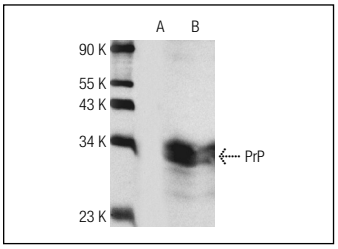
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

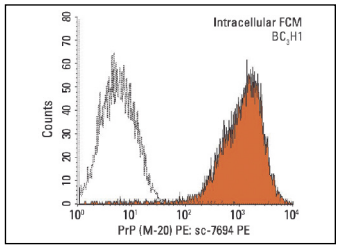
RESEARCH USE

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

DATA



PrP (M-20): sc-7694. Western blot analysis of PrP expression in mouse brain (**A**) and rat brain (**B**) tissue extracts.



PrP (M-20) PE: sc-7694 PE. Intracellular FCM analysis of fixed and permeabilized BC3H1 cells. Black line histogram represents the isotype control, normal goat IgG: sc-3992.

SELECT PRODUCT CITATIONS

1. Arjona, A., et al. 2004. Two Creutzfeldt-Jakob disease agents reproduce prion protein-independent identities in cell cultures. Proc. Natl. Acad. Sci. USA 101: 8768-8773.
2. Shyu, W.C., et al. 2004. Hyperbaric oxygen enhances the expression of prion protein and heat shock protein 70 in a mouse neuroblastoma cell line. Cell. Mol. Neurobiol. 24: 257-268 .
3. Gyllberg, H., et al. 2006. Increased Src kinase level results in increased protein tyrosine phosphorylation in scrapie-infected neuronal cell lines. FEBS Lett. 580: 2603-2608.
4. Kleene, R., et al. 2007. Prion protein regulates Glutamate-dependent lactate transport of astrocytes. J. Neurosci. 27: 12331-12340.
5. Gyllberg, H. and Löfgren, K. 2008. Immunodetection of PrPSc using Western and Slot blotting techniques. Methods Mol. Biol. 459: 35-48.
6. Löfgren, K., et al. 2008. Antiprion properties of prion protein-derived cell-penetrating peptides. FASEB J. 22: 2177-2184.
7. Laurén, J., et al. 2009. Cellular prion protein mediates impairment of synaptic plasticity by amyloid-β oligomers. Nature 457: 1128-1132.
8. Hosokawa-Muto, J., et al. 2009. Variety of antiprion compounds discovered through an in silico screen based on cellular-form prion protein structure: Correlation between antiprion activity and binding affinity. Antimicrob. Agents Chemother. 53: 765-771.
9. Fujita, K., et al. 2011. Effects of a brain-engraftable microglial cell line expressing anti-prion scFv antibodies on survival times of mice infected with scrapie prions. Cell. Mol. Neurobiol. 31: 999-1008.