SANTA CRUZ BIOTECHNOLOGY, INC.

PrP (7D9): sc-58582

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-Jacob disease in humans.

REFERENCES

1. Bessen, R.A., et al. 1992. Biochemical and physical properties of the prion protein from two strains of the transmissible mink encephalopathy agent. J. Virol. 66: 2096-2101.
2. Bessen, R.A., et al. 1995. Non-genetic propagation of strain-specific properties of scrapie prion protein. Nature 375: 698-700.
3. Weiss, S., et al. 1996. Recombinant prion protein rPrP27-30 from Syrian golden hamster reveals proteinase K sensitivity. Biochem. Biophys. Res. Commun. 219: 173-179.
4. Prusiner, S.B. 1998. Prions. Proc. Natl. Acad. Sci. USA 95: 13363-13383.
5. Lee, I.Y., et al. 1998. Complete genomic sequence and analysis of the prion protein gene region from three mammalian species. Genome Res. 8: 1022-1037.
6. Caughey, B., et al. 1998. Strain-dependent differences in β-sheet conformations of abnormal prion protein. J. Biol. Chem. 273: 32230-32235.

CHROMOSOMAL LOCATION

Genetic locus: PRNP (human) mapping to 20p13; Prnp (mouse) mapping to 2 F2.

SOURCE

PrP (7D9) is a mouse monoclonal antibody raised against amino acids 23-237 of PrP of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 500 µl of PBS with < 0.1% sodium azide and 0.1% gelatin.

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

PrP (7D9) is recommended for detection of protease sensitive and protease resistant forms of PrP 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PrP siRNA (h): sc-36318 and PrP siRNA (m): sc-36319.

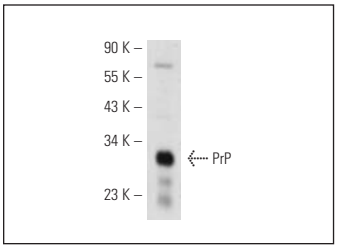
Molecular Weight of PrP: 30 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



PrP (7D9): sc-58582. Western blot analysis of PrP expression in rat brain tissue extract.

PROTOCOLS

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