SANTA CRUZ BIOTECHNOLOGY, INC.

PrP (C-20): sc-7693

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.

CHROMOSOMAL LOCATION

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

SOURCE

PrP (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PrP of human 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-7693 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-7693 PE, 100 tests.

APPLICATIONS

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

PrP (C-20) is also recommended for detection of PrP in additional species, including canine and bovine.

Suitable for use as control antibody for PrP siRNA (h): sc-36318, PrP siRNA (m): sc-36319, PrP shRNA Plasmid (h): sc-36318-SH, PrP shRNA Plasmid (m): sc-36319-SH, PrP shRNA (h) Lentiviral Particles: sc-36318-V 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.

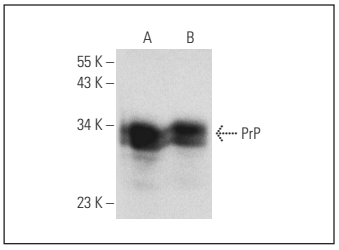
RESEARCH USE

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

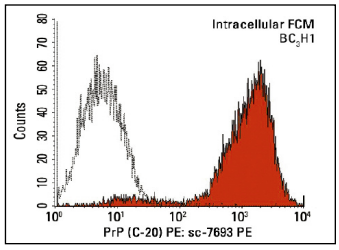
STORAGE

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

DATA



PrP (C-20): sc-7693. Western blot analysis of PrP expression in normal mouse (**A**) and normal rat (**B**) brain tissue extracts.



PrP (C-20) PE: sc-7693 PE. Intracellular FCM analysis of fixed and permeabilized BC_3H1 cells. Black line histogram represents the isotype control, normal goat IgG: sc-3992.

SELECT PRODUCT CITATIONS

1. Mattei, V., et al. 2002. Association of cellular prion protein with gangliosides in plasma membrane microdomains of neural and lymphocytic cells. Neurochem. Res. 27: 743-749.
2. Palestini, P., et al. 2002. Developmental changes in the protein composition of sphingolipid- and cholesterol-enriched membrane domains of rat cerebellar granule cells. J. Neurosci. Res. 67: 729-738.
3. Botto, L., et al. 2007. Changes in the composition of detergent-resistant membrane domains of cultured neurons following protein kinase C activation. J. Neurosci. Res. 85: 443-450.
4. Mattei, V., et al. 2009. Paracrine diffusion of PrP(C) and propagation of prion infectivity by plasma membrane-derived microvesicles. PLoS ONE 4: e5057.
5. Farina, F., et al. 2009. Characterization of prion protein-enriched domains, isolated from rat cerebellar granule cells in culture. J. Neurochem. 110: 1038-1048.
6. Botto, L., et al. 2014. Role of lipid rafts and GM1 in the segregation and processing of prion protein. PLoS ONE 9: e98344.
7. Pham, N., et al. 2015. Primary blast-induced traumatic brain injury in rats leads to increased prion protein in plasma: a potential biomarker for blast-induced traumatic brain injury. J. Neurotrauma 32: 58-65.
8. Pham, N., et al. 2015. Plasma soluble prion protein, a potential biomarker for sport-related concussions: a pilot study. PLoS ONE 10: e0117286.

MONOS Satisfaction Guaranteed

Try **PrP (5B2): sc-47730** or **PrP (H-8): sc-393165**, our highly recommended monoclonal aternatives to PrP (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PrP (5B2): sc-47730**.