SANTA CRUZ BIOTECHNOLOGY, INC.

PrP (G-12): sc-398451

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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.

CHROMOSOMAL LOCATION

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

SOURCE

PrP (G-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 217-232 near the C-terminus of PrP 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.

PrP (G-12) is available conjugated to agarose (sc-398451 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398451 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398451 PE), fluorescein (sc-398451 FITC), Alexa Fluor® 488 (sc-398451 AF488), Alexa Fluor® 546 (sc-398451 AF546), Alexa Fluor® 594 (sc-398451 AF594) or Alexa Fluor® 647 (sc-398451 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398451 AF680) or Alexa Fluor® 790 (sc-398451 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398451 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PrP (G-12) is recommended for detection of PrP 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 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.

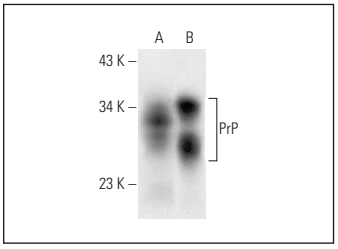
Molecular Weight of PrP: 30 kDa.

Positive Controls: NCI-H226 whole cell lysate: sc-364256 or human brain extract: sc-364375.

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



PrP (G-12): sc-398451. Western blot analysis of PrP expression in NCI-H226 whole cell lysate (**A**) and human brain tissue extract (**B**).

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.