

# SPRN (S-12): sc-136910

## 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). Constitutively expressed in normal adult brain, cellular PrP (PrP(C)) is sensitive to proteinase K digestion and is converted to the disease form, PrP<sup>Sc</sup>, through alterations in protein folding conformation, which make it resistant to proteases. SPRN (shadow of prion protein), also known as SHO or SHADOO, is a 151 amino acid cytoplasmic protein that is mainly expressed in brain. SPRN is considered a prion-like protein that has PrP(C)-like neuroprotective activity and may act as a modulator for the biological actions of normal and abnormal PrP. In humans, mutations in the gene encoding SPRN may be associated with variant and sporadic Creutzfeldt-Jakob disease, a degenerative neurological disorder that is incurable and invariably fatal.

## REFERENCES

1. Mastrangelo, P. and Westaway, D. 2001. The prion gene complex encoding PrP(C) and Doppel: insights from mutational analysis. *Gene* 275: 1-18.
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3. Premzl, M. and Gamulin, V. 2007. Comparative genomic analysis of prion genes. *BMC Genomics* 8: 1.
4. Lampo, E., Van Poucke, M., Hugot, K., Hayes, H., Van Zeveren, A. and Peelman, L.J. 2007. Characterization of the genomic region containing the shadow of prion protein (SPRN) gene in sheep. *BMC Genomics* 8: 138.
5. Beck, J.A., Campbell, T.A., Adamson, G., Poulter, M., Uphill, J.B., Molou, E., Collinge, J. and Mead, S. 2008. Association of a null allele of SPRN with variant Creutzfeldt-Jakob disease. *J. Med. Genet.* 45: 813-817.
6. Lampo, E., Duchateau, L., Schepens, B., Van Poucke, M., Saelens, X., Erkens, T., Van Zeveren, A. and Peelman, L.J. 2009. Identification of polymorphisms in the ovine shadow of prion protein (SPRN) gene and assessment of their effect on promoter activity and susceptibility for classical scrapie. *Anim. Genet.* E-published.

## CHROMOSOMAL LOCATION

Genetic locus: SPRN (human) mapping to 10q26.3.

## SOURCE

SPRN (S-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of SPRN of human origin.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## 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-136910 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SPRN (S-12) is recommended for detection of SPRN of human and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SPRN siRNA (h): sc-90403, SPRN shRNA Plasmid (h): sc-90403-SH and SPRN shRNA (h) Lentiviral Particles: sc-90403-V.

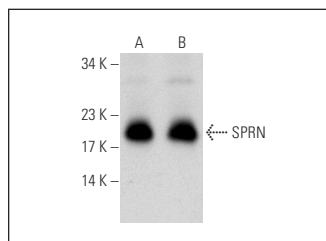
Molecular Weight of SPRN: 15 kDa.

Positive Controls: rat brain extract: sc-2392 or rat hippocampus tissue extract.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



SPRN (S-12): sc-136910. Western blot analysis of SPRN expression in rat hippocampus (A) and rat brain (B) tissue extracts.

## RESEARCH USE

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