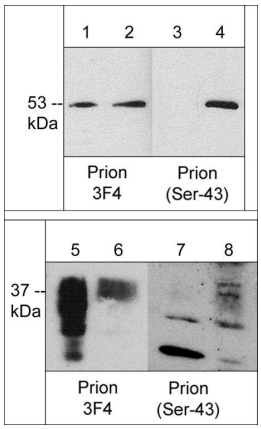
Prion Protein (Ser-43), phospho-specific

Rabbit Polyclonal

Cat. # PP3951
Size 100 µl

Background

Prion related neurodegenerative diseases, called transmissible spongiform encephalopathies, are observed in many animal species. These diseases involve conversion of normal cellular prion protein (PrPc) into a form that is insoluble and resistant to proteases (PrPSc). The protease resistant form can polymerize into fibrils which accumulate in infected tissues and cause cell death and tissue damage. PrPs have an N-terminal signal sequence and a C-terminal linkage to glycosylphosphatidylinositol anchor. The mature protein is a glycosylated protein that associates with cell membranes. Phosphorylation of PrPC at Ser-43 by Cdk5 promotes proteinase K resistance, prion aggregation, and fibril formation in vitro. In addition, Ser-43 phosphorylation is upregulated in scrapie-infected mouse brain relative to controls. Thus, phosphorylation of Ser-43 may be an important mechanism leading conversion of PrPc to PrPSc and the onset of disease.



Western blot of GST recombinant human full-length prion protein that was untreated (lanes 1 and 3) or phosphorylated with Cdk5/p25 (lanes 2 & 4). Endogenous prion phosphorylation was examined in human PC3 cells untreated (lanes 5 & 7) or treated with Calyculin A (100 nM) for 30 min (lanes 6 & 8). The blots were probed with anti-Prion protein (3F4) (lanes 1, 2, 5, & 6) or anti-Prion protein (Ser-43) (lanes 3, 4, 7, & 8).

Background References

Prusiner, S.B. (1982) Science. 216:136.
Kascsak, R.J. et al. (1987) J. Virology. 61:3688.
Monari, L. et al. (1994) Proc. Natl. Acad. Sci. 91:2839.

Applications

WB	1:1000
ELISA	1:2000

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Species Reactivity

Hu, Rt, Ms

Specificity

This antibody was affinity purified using phospho-Prion Protein (Ser-43) peptide (without carrier). The antibody detects a human recombinant Prion protein after phosphorylation by Cdk5/p25 complex. In addition, the antibody may detect aggregrated forms of prion in human PC3 cells treated with Calyculin A.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Immunogen

Uniprot ID: P04156

Prion Protein (Ser-43) antibody was generated from a phospho-peptide that included amino acids surrounding Serine 43 in human prion protein. This sequence has high homology to the conserved site in rat, mouse, and bovine prion protein.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Stable for 1 year.

Related Products

AK6060	Actin & Tubulin Antibody Sampler Kit
CM2361	Cdk5 Mouse Monoclonal
MK6050	MAP Kinase Activation Antibody Sampler Kit
PM3971	Prion Protein (a.a. 109-112) Mouse Monoclonal
PX3955	phospho-Prion Protein (Ser-43) Blocking Peptide

www.ecmbio.com
info@ecmbio.com
toll-free: 1-800-859-8202
telephone: 859-879-2075

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