

# phospho-Prion Protein (Ser-43) Peptide

Cat. # PX3955

Size 50 µg

## **Background:**

Prion related neurodegenerative diseases, called transmissible spongiform encephalopathies, are observed in many animal species. These diseases involve conversion of normal cellular prion protein (PrP<sup>c</sup>) into a form that is insoluble and resistant to proteases (PrP<sup>Sc</sup>). 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 PrP<sup>c</sup> 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 PrP<sup>c</sup> to PrP<sup>Sc</sup> and the onset of disease.

## **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.  
Gianoupolous, P.N. et al. (2009) J. Neurosci. 29:8743.

## **Peptide Sequence:**

Phospho-Prion Protein (Ser-43) peptide includes 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:**

Blocking peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.  
Store at -20°C. Stable for 1 year.

## **Applications:**

Blocking 1:1000

ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.  
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.  
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Specificity:**

The peptide is specifically recognized by anti-Prion Protein (Ser-43) antibody (PP3951) in ELISA, and has been shown to block the reactivity of PP3951 during Western blot. In addition, the peptide is recommended for use in blocking PP3951 reactivity in immunocytochemistry.

## **Related Products:**

- PP3951 Prion Protein (Ser-43), phospho-specific Rabbit Polyclonal  
PM3971 Prion Protein (a.a. 109-112) Mouse Monoclonal  
CM2361 Cdk5 Mouse Monoclonal  
MK6050 MAP Kinase Activation Antibody Sampler Kit  
AK6060 Actin & Tubulin Antibody Sampler Kit  
EK6220 EphA4 Receptor Activation Antibody Sampler Kit

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

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