

PKR Antibody

✓ 100 µl
(10 western blots)

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rev. 03/15/10

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IF-IC Endogenous	H	74 kDa	Rabbit**

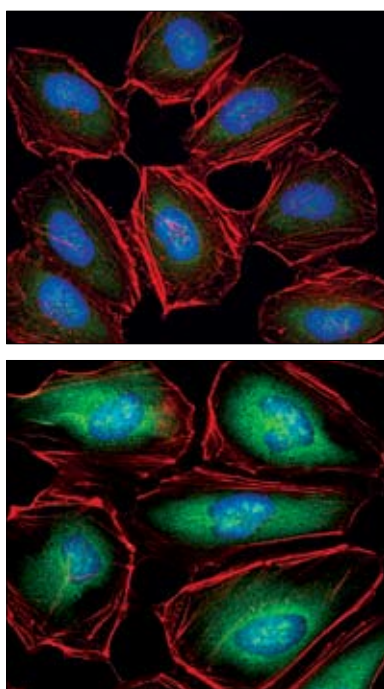
Background: Protein kinase R (PKR) is transcriptionally induced by interferon and activated by double-stranded RNA (dsRNA). PKR inhibits translation initiation through phosphorylation of the alpha subunit of the initiation factor eIF2 (eIF2 α) and also controls the activation of several transcription factors such as NF- κ B, p53 and the Stats. In addition, PKR mediates apoptosis induced by many different stimuli, such as LPS, TNF- α , viral infection and serum starvation (1,2). Activation of PKR by dsRNA results in PKR dimerization and autophosphorylation at threonine 446 and threonine 451 in the activation loop. Substitution of threonine 451 to alanine completely inactivates PKR, while a mutant with a threonine 446 to alanine substitution was partially active (3). Recently, activation of PKR has been implicated in the pathologies of neurodegenerative diseases, including Alzheimer disease (4,5).

Specificity/Sensitivity: PKR Antibody detects endogenous levels of PKR. This antibody does not cross-react with other related proteins.

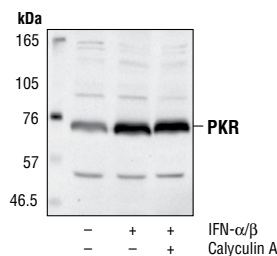
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr451 of human PKR. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Williams, B.R. (1999) *Oncogene* 18, 6112–6120.
- (2) Gil, J. and Esteban, M. (2000) *Apoptosis* 5, 107–114.
- (3) Romano, P. R. et al. (1998) *Mol. Cell. Biol.* 18, 2282–2297.
- (4) Peel, A.L. and Bredesen, D.E. (2003) *Neurobiol. Dis.* 14, 52–62.
- (5) Peel, A.L. (2004) *J. Neuropath. Exp. Neurol.* 63, 97–105.



Confocal immunofluorescent analysis of HeLa cells, untreated (upper) or IFN α -treated (18 hrs., lower), using PKR Antibody (green). Actin filaments have been labeled with Alexa Fluor[®] 555 phalloidin (red). Blue pseudocolor = DRAQ5[®] #4084 (fluorescent DNA dye).



Western blot analysis of extracts from HeLa cells, untreated or IFN- α / β -treated (1000 U/ml for 18 hours), and subsequently untreated or calyculin A-treated (0.1 μ M for 15 minutes), using PKR Antibody.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Entrez-Gene ID #5610
Swiss-Prot Acc. #P19525

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (IF-IC)	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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