

#12297 Store at -20°C

## PKR (D7F7) Rabbit mAb

Cell Signaling  
TECHNOLOGY®Orders: 877-616-CELL (2355)  
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| WB, IP        | H           | Endogenous   | 74        | Rabbit IgG      | #P19525     | 5610            |

## Product Usage Information

## Application

Western Blotting

## Dilution

1:1000

Immunoprecipitation

1:50

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

## Specificity / Sensitivity

PKR (D7F7) Rabbit mAb recognizes endogenous levels of total PKR protein.

## Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu222 of human PKR protein.

## 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 $\alpha$ ) and also controls the activation of several transcription factors, such as NF- $\kappa$ B, p53, and the Stats. In addition, PKR mediates apoptosis induced by many different stimuli, such as LPS, TNF- $\alpha$ , viral infection, and serum starvation (1,2). Activation of PKR by dsRNA results in PKR dimerization and autophosphorylation of Thr446 and Thr451 in the activation loop. Substitution of threonine for alanine at position 451 completely inactivated PKR, while a mutant with a threonine to alanine substitution at position 446 was partially active (3). Research studies have implicated PKR activation in the pathologies of neurodegenerative diseases, including Alzheimer's disease (4,5).

## 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 Neuropathol Exp Neurol* 63, 97-105.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

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

## Applications Key

**WB:** Western Blotting **IP:** Immunoprecipitation

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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