



Rabbit Anti-Phospho-PKR

SL3336R-FITC

Product Name:	Anti-Phospho-PKR (Thr451)/FITC
Chinese Name:	FITC标记的磷酸化蛋白激酶R抗体
Alias:	PKR (phospho T451); p-PKR (phospho T451); PKR (Phospho-Thr451); double-stranded RNA-dependent Protein Kinase; interferon-induced, double-stranded RNA-activated protein kinase isoform α ; protein kinase, interferon-inducible double stranded RNA dependent; interferon-inducible eIF2 α kinase; double stranded RNA activated protein kinase; p68 kinase; eIF-2A protein kinase 2; P1/eIF-2A protein kinase; protein kinase RNA-activated; interferon-inducible RNA-dependent protein kinase; EIF2AK2; EIF2AK1; MGC126524; PKR; PRKR ν .
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,
Applications:	IF=1:50-200 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	62kDa
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated Synthesised phosphopeptide derived from human PKR around the phosphorylation site of Thr451
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Product Detail:	background: PKR is an interferon-inducible serine/threonine specific protein kinase. It is widely

expressed in eukaryotic organisms and activated by double stranded RNA. Activation of PKR by dsRNAs leads to autophosphorylation at multiple sites. Phosphorylation of Thr446 and Thr451 in the PKR activation loop is required in vivo and in vitro for high level kinase activity. PKR phosphorylates its natural substrate, the alpha subunit of eukaryotic protein synthesis initiation factor 2 (EIF2 alpha), leading to the inhibition of protein synthesis. PKR is also involved in TLR signaling and mediates apoptosis in fibroblasts in response to viral infection and inflammatory cytokines, and also activates IKK and NFkB, thereby suppressing apoptosis. Recently, it has been reported that PKR also phosphorylates human p53 on serine 392. PKR might play a role in ER stress-induced apoptosis and in Alzheimer's disease. Alzheimer cases show prominent PKR activation in association with neuritic plaques and pyramidal neurons in the hippocampus and neocortex.

Function:

Following activation by double-stranded RNA in the presence of ATP, the kinase becomes autophosphorylated and can catalyze the phosphorylation of the translation initiation factor EIF2S1, which leads to an inhibition of the initiation of protein synthesis. Double-stranded RNA is generated during the course of a viral infection. In addition to serine/threonine-protein kinase activity, also has tyrosine-protein kinase activity: phosphorylates CDK1 upon DNA damage. CDK1 phosphorylation triggers CDK1 polyubiquitination and subsequent proteolysis, thus leading to G2 arrest.

Subunit:

Homodimer. Interacts with STRBP (By similarity). Interacts with DNAJC3. Inhibited by direct interaction with viral proteins such as HCV E2, HCV NS5A and influenza A NS1. Activated by the interaction with HIV-1 Tat (By similarity). Forms a complex with FANCA, FANCC, FANCG and HSP70.

Post-translational modifications:

Autophosphorylated on several Ser and Thr residues. Autophosphorylation of Thr-451 is dependent on Thr-446 and is stimulated by dsRNA binding and dimerization. Autophosphorylation apparently leads to the activation of the kinase.

Similarity:

Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. GCN2 subfamily.

Contains 2 DRBM (double-stranded RNA-binding) domains.

Contains 1 protein kinase domain.

Database links:

[Entrez Gene: 5610](#)Human

[Omim: 176871](#)Human

[SwissProt: P19525](#)Human

[SwissProt: Q52M43](#)Human

[Unigene: 131431](#)Human

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

蛋白激酶R/双链RNA依赖蛋白激酶(PKR)是一种Interferon诱导的、双链RNA激活的丝氨酸/苏氨酸激酶, PKR在Signal transduction、细胞生长、分化和凋亡的控制中起重要作用.也有人认为:PKR是一个重要的凋亡效应物,是许多不同刺激物诱导凋亡的一个转导物。

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