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Rabbit Anti-Phospho-PKR (Thr446 + Thr451)/AP Conjugated antibody

SL3337R-AP

Product Name	Anti-Phospho-PKR (Thr446 + Thr451)/AP
Chinese Name	碱性磷酸酶（AP）标记的磷酸化蛋白激酶 R 抗体
Alias	double-stranded RNA-dependent Protein Kinase; interferon-induced, double-stranded RNA-activated protein kinase isoform a; protein kinase, interferon-inducible double stranded RNA dependent; interferon-inducible elF2alpha 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; E2AK2_HUMAN.
Product Type	Phosphorylated anti
Research Area	Tumour immunology Signal transduction transcriptional regulatory factor Kinases and Phosphatases
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Mouse,Rat
Applications	WB=1:50-200 IHC-P=1:50-200 IHC-F=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 Thr446/451
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% 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 1M 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 adddition 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.