

Rabbit anti-Human, Mouse PKR Polyclonal Antibody | anti-PKR antibody

PKR Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA322262	Rabbit	Human, Mouse	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

PKR; Polyclonal Antibody; PKR Antibody; Double stranded RNA activated protein kinase; E2AK2_HUMAN; eIF-2A protein kinase 2; EIF2AK1; EIF2AK2; Eukaryotic translation initiation factor 2 alpha kinase 2; Eukaryotic translation initiation factor 2-alpha kinase 2; HGNC:9437; Interferon induced double stranded RNA activated protein kinase; Interferon inducible eIF2 alpha kinase; Interferon inducible RNA dependent protein kinase; Interferon-induced; double-stranded RNA-activated protein kinase; Interferon-inducible RNA-dependent protein kinase; MGC126524; P1/eIF-2A protein kinase; P1/eIF2A protein kinase; p68 kinase; PPP1R83; PRKR; Protein kinase interferon inducible double stranded RNA dependent; Protein kinase RNA activated; Protein kinase RNA-activated; Protein phosphatase 1 regulatory subunit 83; Serine/threonine protein kinase TIK; Tyrosine protein kinase EIF2AK2; anti-PKR antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse
Clonality	Polyclonal
Isotype	IgG
Specificity	PKR antibody detects endogenous levels of total PKR
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	551
Applicable Applications for anti-PKR antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human PKR
Subcellular Location	Nucleus
Tissue Specificity	Highly expressed in thymus, spleen and bone marrow compared to non-hematopoietic tissues such as small intestine, liver, or kidney tissues. Colocalizes with GSK3B and TAU in the Alzheimer disease (AD) brain. Elevated levels seen in breast and colon carcinomas, and which correlates with tumor progression and invasiveness or risk of progression.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemisry)

AAA322262 at 1/100 staining Mouse spleen tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)

AAA322262 staining Hela by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of PKR expression in Starvation treated K562 whole cell lysates, The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-PKR antibody

Description: PKR a protein kinase of the PEK family. Upon binding double-stranded RNA, it becomes autophosphorylated and activated. Phosphorylates and inhibits the alpha subunit of eIF2 alpha, which leads to an inhibition of the initiation of protein synthesis.

Function: IFN-induced dsRNA-dependent serine/threonine-protein kinase which plays a key role in the innate immune response to viral infection and is also involved in the regulation of signal transduction, apoptosis, cell proliferation and differentiation. Exerts its antiviral activity on a wide range of DNA and RNA viruses including hepatitis C virus (HCV), hepatitis B virus (HBV), measles virus (MV) and herpes simplex virus 1 (HHV-1). Inhibits viral replication via phosphorylation of the alpha subunit of eukaryotic initiation factor 2 (EIF2S1), this phosphorylation impairs the recycling of EIF2S1 between successive rounds of initiation leading to inhibition of translation which eventually results in shutdown of cellular and viral protein synthesis. Also phosphorylates other substrates including p53/TP53, PPP2R5A, DHX9, ILF3, IRS1 and the HHV-1 viral protein US11. In addition to serine/threonine-protein kinase activity, also has tyrosine-protein kinase activity and phosphorylates CDK1 at 'Tyr-4' upon DNA damage, facilitating its ubiquitination and proteosomal degradation. Either as an adapter protein and/or via its kinase activity, can regulate various signaling pathways (p38 MAP kinase, NF-kappa-B and insulin signaling pathways) and transcription factors (JUN, STAT1, STAT3, IRF1, ATF3) involved in the expression of genes encoding proinflammatory cytokines and IFNs. Activates the NF-kappa-B pathway via interaction with IKBKB and TRAF family of proteins and activates the p38 MAP kinase pathway via interaction with MAP2K6. Can act as both a positive and negative regulator of the insulin signaling pathway (ISP). Negatively regulates ISP by inducing the inhibitory phosphorylation of insulin receptor substrate 1 (IRS1) at 'Ser-312' and positively regulates ISP via phosphorylation of PPP2R5A which activates FOXO1, which in turn up-regulates the expression of insulin receptor substrate 2 (IRS2). Can regulate NLRP3 inflammasome assembly and the activation of NLRP3, NLRP1, AIM2 and NLRC4 inflammasomes. Can trigger apoptosis via FADD-mediated activation of CASP8. Plays a role in the regulation of the cytoskeleton by binding to gelsolin (GSN), sequestering the protein in an inactive conformation away from actin.

Subunit Structure: Homodimer. Interacts with STRBP (By similarity). Interacts with DNAJC3. Forms a complex with FANCA, FANCC, FANCG and HSP70. Interacts with ADAR/ADAR1. Interacts with IRS1 (By similarity). The inactive form interacts with NCK1 and GSN. Interacts (via the kinase catalytic domain) with STAT3 (via SH2 domain), TRAF2 (C-terminus), TRAF5 (C-terminus) and TRAF6 (C-terminus). Interacts with MAP2K6, IKBKB/IKKB, NPM1, TARBP2, NLRP1, NLRP3, NLRC4 and AIM2. Interacts (via DRBM 1 domain) with DUS2L (via DRBM domain). Interacts with DHX9 (via N-terminus) and this interaction is dependent upon activation of the kinase.

Post-translational Modifications: Autophosphorylated on several Ser, Thr and Tyr 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. Tyrosine autophosphorylation is essential for efficient dsRNA-binding, dimerization, and kinase activation.

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

NCBI AND UNIPROT INFORMATION

NCBI GI #	208431827
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NCBI GeneID	5610
NCBI Accession #	NP_001129123.1
NCBI GenBank Nucleotide #	NM_001135651.2
UniProt Accession #	P19525; Q52M43; Q7Z6F6; Q9UIR4; A8K3P0; D6W584; E9PC80
Molecular Weight	Observed: 74 kDa Predicted: 63 kDa
NCBI Official Full Name	interferon-induced, double-stranded RNA-activated protein kinase isoform a
NCBI Official Synonym Full Names	eukaryotic translation initiation factor 2 alpha kinase 2
NCBI Official Symbol	EIF2AK2
NCBI Official Synonym Symbols	PKR; PRKR; EIF2AK1; PPP1R83
NCBI Protein Information	interferon-induced, double-stranded RNA-activated protein kinase
UniProt Protein Name	Interferon-induced, double-stranded RNA-activated protein kinase
UniProt Gene Name	EIF2AK2
UniProt Synonym Gene Names	PKR; PRKR; eIF-2A protein kinase 2; PKR; Protein kinase R

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/pkr-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/322262>