10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PKR Rabbit mAb
Catalog # AP74922

Specification

PKR Rabbit mAb - Product Information

Application	**WB, IP, ICC**
Primary Accession	Q03963
Reactivity	**Mouse, Rat**
Host	**Rabbit**
Clonality	**Monoclonal Antibody**
Calculated MW	**58280**

PKR Rabbit mAb - Additional Information

Gene ID 19106

Other Names
Eif2Ak2

Dilution
WB~~1/500-1/1000
IP~~N/A
ICC~~N/A

Format
Liquid

PKR Rabbit mAb - Protein Information

Name Eif2ak2

Synonyms Pkr, Prkr, Tik

Function
IFN-induced dsRNA-dependent serine/threonine-protein kinase that phosphorylates the alpha subunit of eukaryotic translation initiation factor 2 (EIF2S1/eIF-2-alpha) and plays a key role in the innate immune response to viral infection (PubMed:20038207, PubMed:20478537, PubMed:21123651). Inhibits viral replication via the integrated stress response (ISR): EIF2S1/eIF-2-alpha phosphorylation in response to viral infection converts EIF2S1/eIF-2-alpha in a global protein synthesis inhibitor, resulting to a shutdown of cellular and viral protein synthesis, while concomitantly initiating the preferential translation of ISR-specific mRNAs, such as the transcriptional activator ATF4 (PubMed:20631127, PubMed:21123651). Exerts its antiviral activity on a wide range of DNA and RNA viruses including west nile virus (WNV), sindbis virus (SV), foot-and-mouth virus (FMDV), semliki Forest virus (SFV) and lymphocytic

choriomeningitis virus (LCMV) (PubMed:19264662, PubMed:20585572, PubMed:20631127, PubMed:21994357). Also involved in the regulation of signal transduction, apoptosis, cell proliferation and differentiation: phosphorylates other substrates including p53/TP53, PPP2R5A, DHX9, ILF3, and IRS1 (PubMed:19229320, PubMed:23403623). 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 proteasomal degradation (By similarity). 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 pro-inflammatory cytokines and IFNs (PubMed:22948222, PubMed:23392680). 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 (By similarity). Can act as both a positive and negative regulator of the insulin signaling pathway (ISP) (By similarity). 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) (By similarity). Can regulate NLRP3 inflammasome assembly and the activation of NLRP3, NLRP1, AIM2 and NLRC4 inflammasomes (PubMed:22801494, PubMed:23401008). Plays a role in the regulation of the cytoskeleton by binding to gelsolin (GSN), sequestering the protein in an inactive conformation away from actin (PubMed:22633459).

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:P19525}. Nucleus {ECO:0000250|UniProtKB:P19525}. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:P19525}

Tissue Location
Expressed in heart, lung, brain, kidney, testes, thymus and bone marrow

PKR Rabbit mAb - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PKR Rabbit mAb - Images

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999