

## Product datasheet for **AP15147PU-N**

### PKR (EIF2AK2) (N-term) Rabbit Polyclonal Antibody

#### Product data:

|                       |  |
|-----------------------|--|
| Product Type:         | Primary Antibodies   |
| Applications:         | IHC, WB  |
| Recommended Dilution: | ELISA: 1/1,000.<br>Western blotting: 1/100 - 1/500.<br>Immunohistochemistry: 1/50 - 1/100.<br>Flow cytometry.                                |
| Reactivity:           | Human, Mouse   |
| Host:                 | Rabbit   |
| Isotype:              | Ig   |
| Clonality:            | Polyclonal   |
| Immunogen:            | This antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected from the N-terminal region of human PRKR. |
| Specificity:          | This antibody reacts to PRKR.  |
| Formulation:          | PBS with 0.09% (W/V) sodium azide<br>State: Purified<br>State: Liquid purified Ig  |
| Concentration:        | lot specific   |
| Purification:         | Prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS  |
| Conjugation:          | Unconjugated   |
| Storage:              | Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.<br>Avoid repeated freezing and thawing.            |
| Stability:            | Shelf life: one year from despatch.  |
| Gene Name:            | eukaryotic translation initiation factor 2 alpha kinase 2  |
| Database Link:        | <a href="#">Entrez Gene 5610 Human P19525</a>  |



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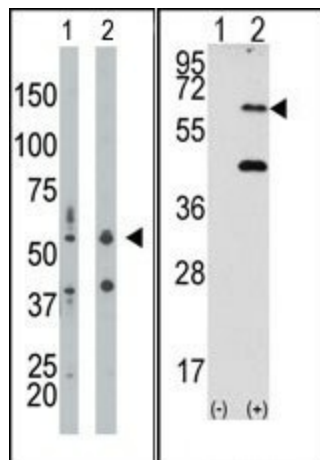
**Background:**

Interferon-induced, double-stranded RNA-activated protein kinase (PRKR) is a serine-threonine kinase. Activation by dsRNAs leads to autophosphorylation of PRKR and allows the kinase to phosphorylate its natural substrate, the alpha subunit of eukaryotic protein synthesis initiation factor-2 (EIF2-alpha), leading to the inhibition of protein synthesis. Human gamma-interferon (IFNG) mRNA exploits localized activation of PRKR in the cell to regulate its own translation. IFNG mRNA activates PRKR through a pseudoknot in its 5-prime untranslated region. The HCV envelope protein E2 contains a sequence identical with phosphorylation sites of the interferon-inducible protein kinase PRKR and the translation initiation factor EIF2-alpha, a target of PRKR. E2 inhibits the kinase activity of PRKR and blocks its inhibitory effect on protein synthesis and cell growth, which provides one mechanism by which HCV may circumvent the antiviral effect of interferon. PRKR, which is involved in TLR signaling and mediates apoptosis in fibroblasts in response to viral infection and inflammatory cytokines, also activates IKK and NFkB, thereby suppressing apoptosis. Apoptosis induced by live pathogenic gram-positive and gram-negative bacteria requires both TLR4 and PRKR, possibly representing a major mechanism for pathogenic bacteria that use specific virulence factors to avoid detection and destruction by the innate immune system. Roles for PRKR activation in Huntington disease and Fanconi anemia have also been suggested.

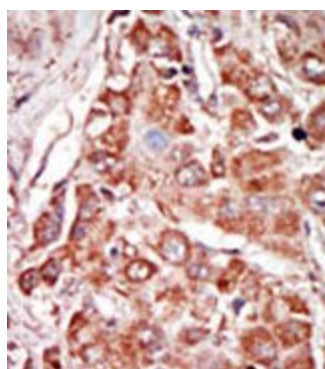
**Synonyms:**

eIF-2A protein kinase 2, PRKR

**Product images:**



(LEFT)The anti-PRKR Pab is used in Western blot to detect PRKR in mouse liver tissue lysate (Lane 1) and HepG2 cell lysate (Lane 2). (RIGHT)Western blot analysis of EIF2AK2 (arrow) using PRKR Antibody (N-term). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the EIF2AK2 gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining.