

BACKGROUND

An interferon-inducible, RNA-dependent protein serine/threonine kinase, PKR, has been described. PKR in earlier literature is variously known as DAI, dsJ, PI kinase, p65, p67 or TIK for the mouse kinase; and p68 or p69 for the human kinase. The PKR kinase substrate is the α subunit of protein synthesis initiation factor eIF-2. Phosphorylation of eIF-2 α on serine-51 results in inhibition of translation. Molecular cDNA clones have been isolated from both human and mouse cells. The serine/threonine kinase catalytic domains map to the carboxy terminal half of the protein while the RNA binding domains are located in the amino terminal region. Three kinds of regulation of PKR enzymatic activity have been described. These include transcriptional regulation in response to interferon, an autoregulatory mechanism controlling PKR expression at the level of translation and post-translational regulation by RNA mediated autophosphorylation.

CHROMOSOMAL LOCATION

Genetic locus: EIF2AK2 (human) mapping to 2p22.2; Eif2ak2 (mouse) mapping to 17 E3.

SOURCE

PKR (23) is a mouse monoclonal antibody raised against amino acids 5-220 of PKR of rat origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-136352 X, 200 μ g/0.1 ml.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PKR (23) is recommended for detection of PKR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PKR siRNA (h): sc-36263, PKR siRNA (m): sc-36264, PKR shRNA Plasmid (h): sc-36263-SH, PKR shRNA Plasmid (m): sc-36264-SH, PKR shRNA (h) Lentiviral Particles: sc-36263-V and PKR shRNA (m) Lentiviral Particles: sc-36264-V.

PKR (23) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

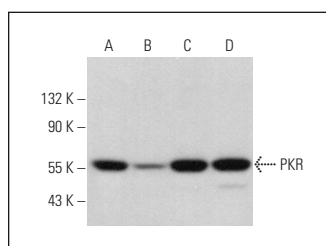
Molecular Weight of rat PKR: 58 kDa.

Molecular Weight of mouse and human PKR: 68 kDa.

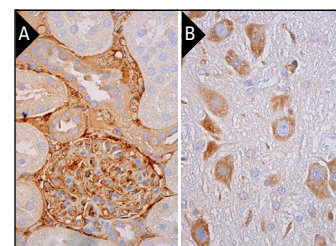
Positive Controls: PC-12 cell lysate: sc-2250, 3611-RF whole cell lysate: sc-2215 or A-10 cell lysate: sc-3806.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA

PKR (23): sc-136352. Western blot analysis of PKR expression in PC-12 (A), 3611-RF (B), A-10 (C) and Sol8 (D) whole cell lysates.



PKR (23): sc-136352. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat kidney tissue showing cytoplasmic staining of cells in glomeruli and cells in tubules (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells (B).

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.