SANTA CRUZ BIOTECHNOLOGY, INC.

PKR (N-18): sc-709

BACKGROUND

Interferon-inducible RNA-dependent protein serine/threonine kinase, PKR, is variously designated in earlier literature 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-2α 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.

SOURCE

PKR (N-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of PKR of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-709 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKR (N-18) is recommended for detection of PKR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of PKR: 68 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or Daudi + IFN-α cell lysate: sc-2266.

STORAGE

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

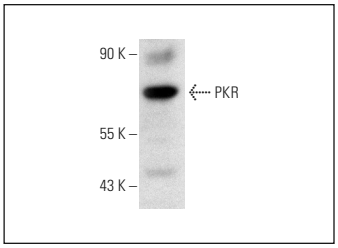
PROTOCOLS

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

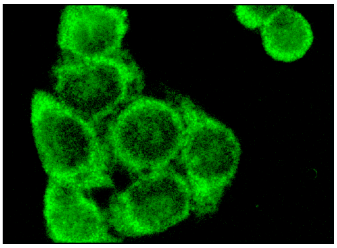
RESEARCH USE

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

DATA



PKR (N-18): sc-709. Western blot analysis of PKR expression in IFNα treated Daudi whole cell lysate.



PKR (N-18): sc-709. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

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4. Danforth, D.N., et al. 2005. Conversion of Fas-resistant to Fas-sensitive MCF-7 breast cancer cells by the synergistic interaction of interferon-γ and all-*trans* retinoic acid. Breast Cancer Res. Treat. 94: 81-91.
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6. Blondel, D., et al. 2010. Resistance to rabies virus infection conferred by the PMLIV isoform. J. Virol. 84: 10719-10726.
7. Thapa, R.J., et al. 2011. NF-κB protects cells from γ interferon-induced RIP1-dependent necroptosis. Mol. Cell. Biol. 31: 2934-2946.
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