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Mouse Anti-EIF2AK2 antibody

SLM-51601M

Product Name	EIF2AK2
Chinese Name	Interferon 诱导的双链 RNA 活化蛋白激酶单克隆抗体
Alias	double-stranded RNA-dependent Protein Kinase; interferon-induced, double-stranded RNA-activated protein kinase isoform a; protein kinase, interferon-inducible double stranded RNA dependent; interferon-inducible elF2alpha kinase; double stranded RNA activated protein kinase; p68 kinase; eIF-2A protein kinase 2; P1/eIF-2A protein kinase; protein kinase RNA-activated; interferon-inducible RNA-dependent protein kinase; EIF2AK1; MGC126524; PKR; PRKRv; E2AK2_HUMAN.
Research Area	Cell biology Signal transduction Stem cells Growth factors and hormones Kinases and Phosphatases Cell differentiation
Immunogen Species	Mouse
Clonality	Monoclonal
Clone NO.	R5D3
React Species	Human
Applications	WB=1:500-2000,ICC/IF=1:50-200 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	61kDa
Cellular localization	cytoplasmic
Form	Liquid
Concentration	1mg/ml
immunogen	Recombinant human EIF2AK2.
Lsotype	IgG1,k
Purification	affinity purified by Protein G
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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Product Detail

PKR is an interferon-inducible serine/threonine specific protein kinase. It is widely expressed in eukaryotic organisms and activated by double stranded RNA. Activation of PKR by dsRNAs leads to autophosphorylation at multiple sites. Phosphorylation of Thr446 and Thr451 in the PKR activation loop is required in vivo and in vitro for high level kinase activity. PKR phosphorylates its natural substrate, the alpha subunit of eukaryotic protein synthesis initiation factor 2 (EIF2 alpha), leading to the inhibition of protein synthesis. PKR is also involved in TLR signaling and mediates apoptosis in fibroblasts in response to viral infection and inflammatory cytokines, and also activates IKK and NFKB, thereby suppressing apoptosis. Recently, it has been reported that PKR also phosphorylates human p53 on serine 392. PKR might play a role in ER stress-induced apoptosis and in Alzheimer's disease. Alzheimer cases show prominent PKR activation in association with neuritic plaques and pyramidal neurons in the hippocampus and neocortex.

Function:
Following activation by double-stranded RNA in the presence of ATP, the kinase becomes autophosphorylated and can catalyze the phosphorylation of the translation initiation factor EIF2S1, which leads to an inhibition of the initiation of protein synthesis. Double-stranded RNA is generated during the course of a viral infection.

Subunit:
Homodimer. Interacts with STRBP. Interacts with DNAJC3. Inhibited by direct interaction with viral proteins such as HCV E2, HCV NS5A and influenza A NS1. Activated by the interaction with HIV-1 Tat. Forms a complex with FANCA, FANCC, FANCG and HSP70.

Post-translational modifications:
Autophosphorylated on several Ser and Thr 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.

Similarity:
Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. GCN2 subfamily.
Contains 2 DRBM (double-stranded RNA-binding) domains.
Contains 1 protein kinase domain.

SWISS:
P19525

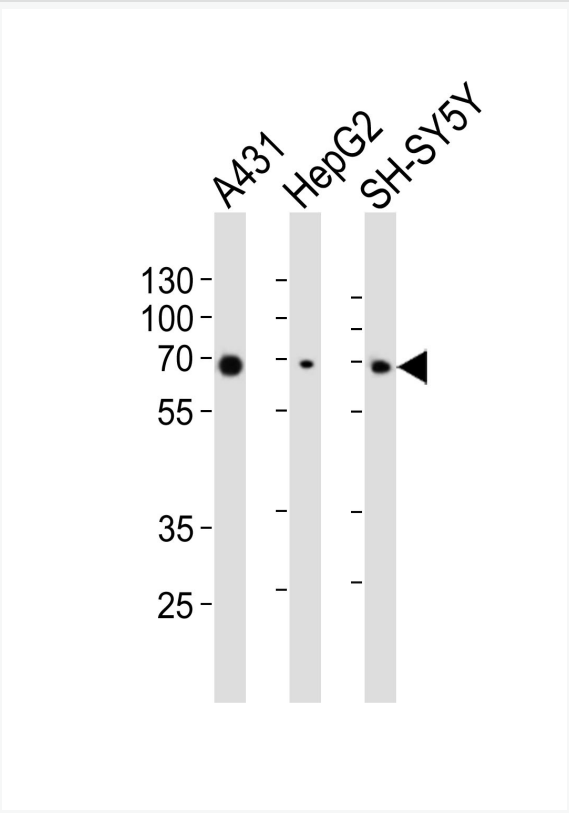
Gene ID:
5610

Database links:

Entrez Gene: 5610 Human

SwissProt: P19525 Human

Product Picture



Sample:

Lane 1: A431 cell lysates

Lane 2: HepG2 cell lysates

Lane 3: SH-SY5Y cell lysates

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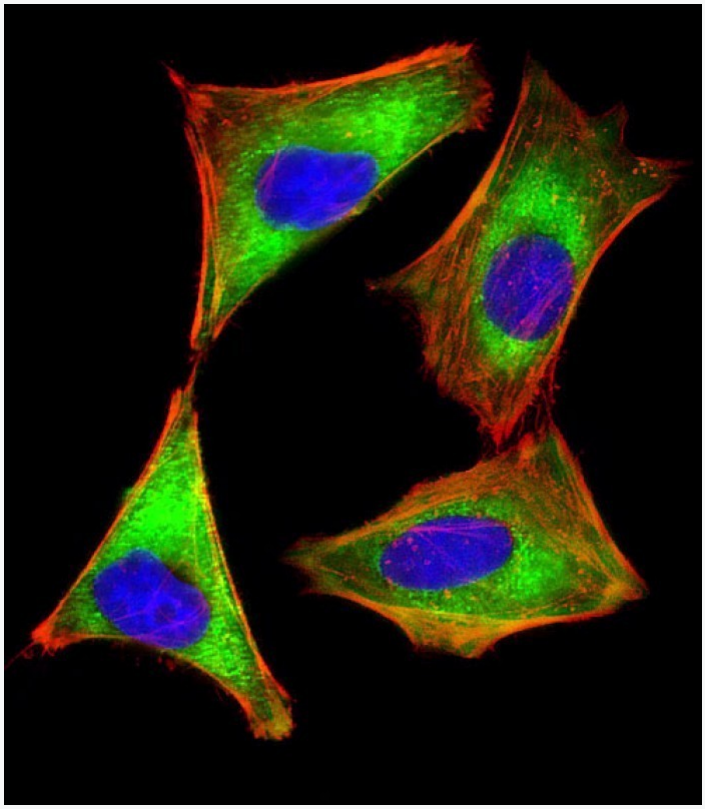
Primary: Anti-EIF2AK2 (SLM-51601M) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution

Predicted band size: 61 kD

Observed band size: 69 kD



Hela cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum) at 37°C for 20 min; Antibody incubation with (EIF2AK2) monoclonal Antibody, Unconjugated (SLM-51601M) 1:25, 90 minutes at 37°C; followed by a conjugated Goat Anti-Mouse IgG antibody at 37°C for 90 minutes, Alexa

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Fluor® 555 conjugated with Phalloidin(red) was used to stain the cell Cytoplasmic actin.The nuclear counter stain is DAPI (blue)