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Datasheet for ABIN4909078

anti-EIF2AK2 antibody

2 Images

Overview

Quantity:	100 µL
Target:	EIF2AK2
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This EIF2AK2 antibody is un-conjugated
Application:	Western Blotting (WB), Immunofluorescence (Cultured Cells) (IF (cc)), Immunofluorescence (Paraffin-embedded Sections) (IF (p))

Product Details

Immunogen:	This EIF2AK2 antibody is generated from mice immunized with a recombinant protein.
Clone:	1C4
Isotype:	IgG1
Cross-Reactivity:	Human
Purification:	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Target Details

Target:	EIF2AK2
Alternative Name:	EIF2AK2 (EIF2AK2 Products)

Target Details

Background: Synonyms: PKR, PRKR, EIF2AK1, PPP1R83, Interferon-induced, double-stranded RNA-activated protein kinase, Eukaryotic translation initiation factor 2-alpha kinase 2, eIF-2A protein kinase 2, Interferon-inducible RNA-dependent protein kinase, P1/eIF-2A protein kinase, Protein kinase RNA-activated, Protein kinase R, Tyrosine-protein kinase EIF2AK2, p68 kinase, EIF2AK2

Background: IFN-induced dsRNA-dependent serine/threonine-protein kinase which plays a key role in the innate immune response to viral infection and is also involved in the regulation of signal transduction, apoptosis, cell proliferation and differentiation. Exerts its antiviral activity on a wide range of DNA and RNA viruses including hepatitis C virus (HCV), hepatitis B virus (HBV), measles virus (MV) and herpes simplex virus 1 (HHV-1). Inhibits viral replication via phosphorylation of the alpha subunit of eukaryotic initiation factor 2 (EIF2S1), this phosphorylation impairs the recycling of EIF2S1 between successive rounds of initiation leading to inhibition of translation which eventually results in shutdown of cellular and viral protein synthesis. Also phosphorylates other substrates including p53/TP53, PPP2R5A, DHX9, ILF3, IRS1 and the HHV-1 viral protein US11. 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 proteosomal degradation. 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 proinflammatory cytokines and IFNs. 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. Can act as both a positive and negative regulator of the insulin signaling pathway (ISP). 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).

Gene ID: 5610

UniProt: [P19525](#)

Pathways: [DNA Damage Repair](#), [ER-Nucleus Signaling](#), [Hepatitis C](#)

Application Details

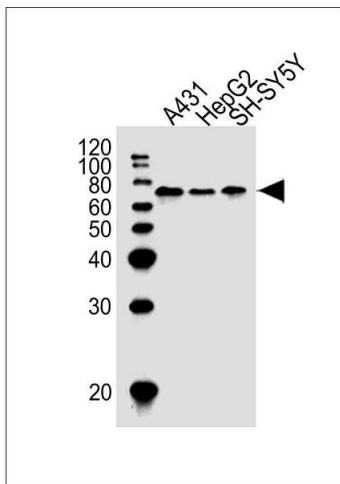
Application Notes: WB 1:300-5000
IF(IHC-P) 1:50-200
IF(ICC) 1:50-200

Restrictions: For Research Use only

Handling

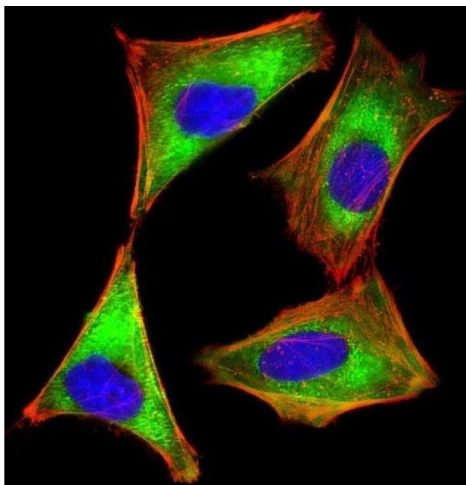
Format:	Liquid
Concentration:	0.5 µg/µL
Buffer:	0.01M TBS(pH 7.4) with 1 % BSA, 0.02 % Proclin300 and 50 % Glycerol.
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store at -20°C for 12 months.
Expiry Date:	12 months

Images



Western Blotting

Image 1. Lane 1: A431 Cell lysates, Lane 2: HepG2 Cell lysates, Lane 3: SH-SY5Y Cell lysates, probed with EIF2AK2 (1441CT628.33.40) Monoclonal Antibody, unconjugated (bsm-51436M) at 1:1000 overnight at 4°C followed by a conjugated secondary antibody for 60 minutes at 37°C.



Immunofluorescence (Cultured Cells)

Image 2. Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa cells labeled with EIF2AK2 (1441CT628.33.40) Monoclonal Antibody (bsm-51436M) at 1/25 dilution, followed by secondary antibody (green), cytoplasmic actin staining (red), and nuclear counter stain with DAPI (blue).