

Rabbit anti-Human, Mouse EIF2AK1 Polyclonal Antibody | anti-EIF2AK1 antibody

EIF2AK1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA324718	Rabbit	Human, Mouse	ELISA, Immunocytochemistry, Immunofluorescence, Western Blot

PRODUCT SYNONYMS

EIF2AK1; Polyclonal Antibody; EIF2AK1 Antibody; E2AK1_HUMAN; EC 2.7.11.1; Eif2ak1; Eukaryotic translation initiation factor 2 alpha kinase 1; Eukaryotic translation initiation factor 2-alpha kinase 1; HCR; Heme controlled repressor; Heme regulated eukaryotic initiation factor eIF 2 alpha kinase; Heme regulated inhibitor; Heme regulated initiation factor 2 alpha kinase; Heme regulated repressor; Heme sensitive initiation factor 2a kinase; Heme-controlled repressor; Heme-regulated eukaryotic initiation factor eIF-2-alpha kinase; Heme-regulated inhibitor; Hemin sensitive initiation factor 2 alpha kinase; Hemin-sensitive initiation factor 2-alpha kinase; HRI; KIAA1369; PRO1362; anti-EIF2AK1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse
Clonality	Polyclonal
Isotype	IgG
Specificity	EIF2AK1 antibody detects endogenous levels of total EIF2AK1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	629
Applicable Applications for anti-EIF2AK1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), WB (Western Blot)
Immunogen	A synthesized peptide
Subcellular Location	Cytoplasm.
Tissue Specificity	Expressed predominantly in erythroid cells. At much lower levels, expressed in hepatocytes (at protein level).
Predicted Cross Reactivity	Dog
Similarity	Dog (86%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

AAA324718 staining A549 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of extracts from A549 cells using EIF2AK1 antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-EIF2AK1 antibody

Function: Inhibits protein synthesis at the translation initiation level, in response to various stress conditions, including oxidative stress, heme deficiency, osmotic shock and heat shock. Exerts its function through the phosphorylation of EIF2S1 at 'Ser-48' and 'Ser-51', thus preventing its recycling. Binds hemin forming a 1:1 complex through a cysteine thiolate and histidine nitrogenous coordination. This binding occurs with moderate affinity, allowing it to sense the heme concentration within the cell. Thanks to this unique heme-sensing capacity, plays a crucial role to shut off protein synthesis during acute heme-deficient conditions. In red blood cells (RBCs), controls hemoglobin synthesis ensuring a coordinated regulation of the synthesis of its heme and globin moieties. Thus plays an essential protective role for RBC survival in anemias of iron deficiency. Similarly, in hepatocytes, involved in heme-mediated translational control of CYP2B and CYP3A and possibly other hepatic P450 cytochromes. May also contain ER stress during acute heme-deficient conditions (By similarity).

Subunit Structure: Synthesized in an inactive form that binds to the N-terminal domain of CDC37. Has to be associated with a multiprotein complex containing Hsp90, CDC37 and PPP5C for maturation and activation by autophosphorylation. The phosphatase PPP5C modulates this activation. Forms oligomers. Has been reported as a non-covalently bound homodimer, as well as a hexamer in the absence of hemin. Converted to an inactive disulfide linked homodimer in the presence of hemin (By similarity).

Post-translational Modifications: Activated by autophosphorylation; phosphorylated predominantly on serine and threonine residues, but also on tyrosine residues. Autophosphorylation at Thr-488 is required for kinase activation. The active autophosphorylated form apparently is largely refractory to cellular heme fluctuations (By similarity).

Similarity: Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. GCN2 subfamily.

NCBI AND UNIPROT INFORMATION

NCBI GI #	197245437
NCBI GeneID	27102
NCBI Accession #	NP_001127807.1
NCBI GenBank Nucleotide #	NM_001134335.1
UniProt Accession #	Q9BQI3; Q549K6; Q8NBW3; Q9HC02; Q9NYES; Q9P0V6; Q9P1J5; Q9P2H8; Q9UHG4; A8K2R2
Molecular Weight	Observed: 71 kD Predicted: 72 kDa
NCBI Official Full Name	eukaryotic translation initiation factor 2-alpha kinase 1 isoform b
NCBI Official Synonym Full Names	eukaryotic translation initiation factor 2 alpha kinase 1
NCBI Official Symbol	EIF2AK1
NCBI Official Synonym Symbols	HCR; HRI
NCBI Protein Information	eukaryotic translation initiation factor 2-alpha kinase 1
UniProt Protein Name	Eukaryotic translation initiation factor 2-alpha kinase 1
UniProt Gene Name	EIF2AK1
UniProt Synonym Gene Names	HRI; KIAA1369; HCR

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/eif2ak1-antibody-immunocytochemistry-immunofluorescence-western-blot-elisa/324718>