

Rabbit PERK Polyclonal Antibody | anti-PERK antibody

PERK Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321958	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

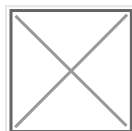
PRODUCT SYNONYMS

PERK; Polyclonal Antibody; PERK Antibody; DKFZp781H1925; E2AK3_HUMAN; EC 2.7.11.1; Eif2ak3; Eukaryotic translation initiation factor 2 alpha kinase 3; Eukaryotic translation initiation factor 2-alpha kinase 3; Heme regulated EIF2 alpha kinase; HRI; HsPEK; Pancreatic eIF2 alpha kinase; Pancreatic eIF2-alpha kinase; PEK; PRKR like endoplasmic reticulum kinase; PRKR-like endoplasmic reticulum kinase; WRS; anti-PERK antibody

PRODUCT SPECIFICATIONS

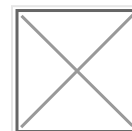
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	PERK antibody detects endogenous levels of total PERK
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	1116
Applicable Applications for anti-PERK antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human PERK
Subcellular Location	Endoplasmic Reticulum Membrane.
Tissue Specificity	Ubiquitous. A high level expression is seen in secretory tissues.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



WB (Western Blot)

Western blot analysis of PERK expression in Hela cells. The lane on the left is treated with the antigen-specific peptide.



IHC (Immunohistochemistry)

AAA321958 at 1/100 staining Human breast cancer tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)

Western blot analysis of PERK expression in mouse brain



IF (Immunofluorescence)

AAA321958 staining Iovo cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/400 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-PERK antibody

Description: Phosphorylates the alpha subunit of eukaryotic translation-initiation factor 2 (EIF2), leading to its inactivation and thus to a rapid reduction of translational initiation and repression of global protein synthesis.

Function: Metabolic-stress sensing protein kinase that phosphorylates the alpha subunit of eukaryotic translation initiation factor 2 (eIF-2-alpha/EIF2S1) on 'Ser-52' during the unfolded protein response (UPR) and in response to low amino acid availability. Converts phosphorylated eIF-2-alpha/EIF2S1 either in a global protein synthesis inhibitor, leading to a reduced overall utilization of amino acids, or to a translation initiation activator of specific mRNAs, such as the transcriptional activator ATF4, and hence allowing ATF4-mediated reprogramming of amino acid biosynthetic gene expression to alleviate nutrient depletion. Serves as a critical effector of unfolded protein response (UPR)-induced G1 growth arrest due to the loss of cyclin-D1 (CCND1). Involved in control of mitochondrial morphology and function.

Subunit Structure: Forms dimers with HSPA5/BIP in resting cells (By similarity). Oligomerizes in ER-stressed cells (By similarity). Interacts with DNAJC3 and MFN2 (By similarity). Interacts with TMEM33 (PubMed:26268696). Interacts with PDIA6 (PubMed:24508390).

Post-translational Modifications: Oligomerization of the N-terminal ER luminal domain by ER stress promotes PERK trans-autophosphorylation of the C-terminal cytoplasmic kinase domain at multiple residues including Thr-982 on the kinase activation loop (By similarity). Autophosphorylated. Phosphorylated at Tyr-619 following endoplasmic reticulum stress, leading to activate its tyrosine-protein kinase activity. Dephosphorylated by PTPN1/TP1B, leading to inactivate its enzyme activity. N-glycosylated. ADP-ribosylated by PARP16 upon ER stress, which increases kinase activity.

Similarity: The luminal domain senses perturbations in protein folding in the ER, probably through reversible interaction with HSPA5/BIP. Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. GCN2 subfamily.

References

Liu Y, Shen HJ, Wang XQ, Liu HQ, Zheng LY, Luo JD; Journal: J Cell Biochem. EndophilinA2 protects against angiotensin II-induced cardiac hypertrophy by inhibiting angiotensin II type 1 receptor trafficking in neonatal rat cardiomyocytes. Yang X, He J, Li B, Zhang J, He K, Duan X, Huang R, Xiang G; Journal: J Nanosci Nanotechnol. SWNHs (Single-Wall Carbon Nanohorns) Supervises Endoplasmic Reticulum (ER) Stress in Hepatocellular Carcinoma. Lu HY, Chen XQ, Tang W, Wang QX, Zhang J; Journal: Mol Med Rep. GRP78 silencing enhances hyperoxia-induced alveolar epithelial cell apoptosis via CHOP pathway.

NCBI AND UNIPROT INFORMATION

NCBI GI #	134304838
NCBI GeneID	9451
NCBI Accession #	NP_004827.4
NCBI GenBank Nucleotide #	NM_004836.6
UniProt Accession #	Q9NZJ5 ; O95846 ; Q53QY0 ; Q53SB1 ; A0AVH1 ; A0AVH2 ; B2RCU9
Molecular Weight	Observed: 125 kDa Predicted: 126 kDa
NCBI Official Full Name	eukaryotic translation initiation factor 2-alpha kinase 3 isoform 1
NCBI Official Synonym Full Names	eukaryotic translation initiation factor 2 alpha kinase 3
NCBI Official Symbol	EIF2AK3

NCBI Official Synonym Symbols	PEK; WRS; PERK
NCBI Protein Information	eukaryotic translation initiation factor 2-alpha kinase 3
UniProt Protein Name	Eukaryotic translation initiation factor 2-alpha kinase 3
UniProt Gene Name	EIF2AK3
UniProt Synonym Gene Names	PEK; PERK; HsPEK

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/perk-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/321958>