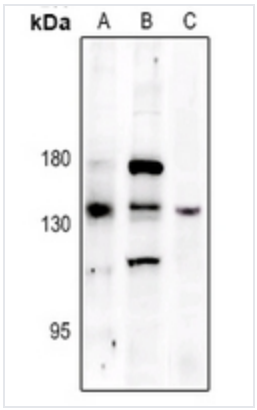
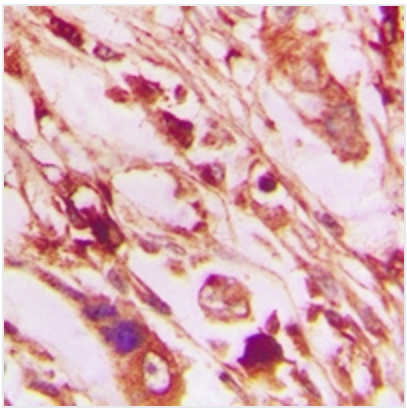
PERK Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	PERK, Polyclonal Antibody
Full Product Name	Anti-PERK (pT982) Antibody
Product Gene Name	anti-PERK antibody
Product Synonym Gene Name	EIF2AK3
Product Synonym Names	PEK; PERK; Eukaryotic translation initiation factor 2-alpha kinase 3; PRKR-like endoplasmic reticulum kinase; Pancreatic eIF2-alpha kinase; HsPEK
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 2 weeks. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.
Molecular Weight	125,216 Da
Chromosome Location	Chromosome: 2; NC_000002.11 (88856259..88927094, complement). Location: 2p12
OMIM	226980
3D Structure	ModBase 3D Structure for Q9NZJ5
Applications Tested/Suitable for anti-PERK antibody	Western Blot (WB), Immunohistochemistry (IHC)
Related Product Information for anti-PERK antibody	Rabbit polyclonal antibody to PERK (pT982) KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human PERK. The exact sequence is proprietary.
Other Notes	Small volumes of anti-PERK antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for PERK purchase	MBS9240701 is an antibody targeting PERK. Also known as Anti-PERK (pT982) Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Wester Blot (WB) of anti-PERK antibody
Dilution: WB (1/500 - 1/1000), IH (1/100 - 1/200)Western blot analysis of PERK (pT982) expression in A375 (A), MCF7 (B), mouse testis (C) whole cell lysates.



Immunohistochemistry (IHC) of anti-PERK antibody
Dilution: WB: (1/500 - 1/1000), IH (1/100 - 1/200)Immunohistochemical analysis of PERK (pT982) staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PERK. It may not necessarily be applicable to this product.

NCBI GI #	134304838
NCBI GeneID	9451
NCBI Accession #	NP_004827.4
UniProt Primary Accession #	Q9NZJ5
UniProt Secondary Accession #	O95846; Q53QY0; Q53SB1; A0AVH1; A0AVH2; B2RCU9
UniProt Related Accession #	Q9NZJ5
GenBank Nucleotide #	NM_004836.5
NCBI Official Full Name	eukaryotic translation initiation factor 2-alpha kinase 3
NCBI Official Synonym Full Names	eukaryotic translation initiation factor 2-alpha kinase 3
NCBI Official Symbol	EIF2AK3
NCBI Official Synonym Symbols	PEK; WRS; PERK
UniProt Protein Name	Eukaryotic translation initiation factor 2-alpha kinase 3
UniProt Synonym Protein Names	PRKR-like endoplasmic reticulum kinase; Pancreatic eIF2-alpha kinase
Protein Family	Eukaryotic translation initiation factor 2-alpha kinase
UniProt Gene Name	EIF2AK3
UniProt Synonym Gene Names	PEK; PERK; HsPEK
UniProt Entry Name	E2AK3_HUMAN
NCBI Protein Information	eukaryotic translation initiation factor 2-alpha kinase 3; hsPEK; pancreatic EIF2-alpha kinase; PRKR-like endoplasmic reticulum kinase; eukaryotic translation initiation factor 2 alpha kinase 3
NCBI Summary for PERK	The protein encoded by this gene 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. It is a type I membrane protein located in the endoplasmic reticulum (ER), where it is induced by ER stress caused by malfolded proteins. Mutations in this gene are associated with Wolcott-Rallison syndrome. [provided by RefSeq, Jan 2010]

UniProt Comments for PERK	PERK: a transmembrane protein kinase of the PEK family resident in the endoplasmic reticulum (ER) membrane and is linked to insulin processing. Couples ER stress to translation inhibition. Stress induces autophosphorylation of its kinase domain and increases its activity. Phosphorylates the alpha subunit of eukaryotic translation-initiation factor 2 (eIF2alpha), leading to its inactivation and thus to a rapid reduction of translational initiation and repression of global protein synthesis. A critical effector of unfolded protein response (UPR)-induced G1 growth arrest due to the loss of cyclin d1. Forms dimers with BiP in resting cells. Oligomerizes in ER-stressed cells. LOF mutations cause Wolcott-Rallison syndrome (WRS), characterized by insulin-dependent diabetes in early infancy and, later, multiple system abnormalities. Neuronal death in Alzheimer?s and Parkinson?s diseases is thought to be due to ER stress and has been weakly linked to PEK. Protein type: EC 2.7.11.1; Membrane protein, integral; Translation; Protein kinase, Other; Kinase, protein; Protein kinase, Ser/Thr (non-receptor); Other group; PEK family; PEK subfamily Chromosomal Location of Human Ortholog: 2p12 Cellular Component: endoplasmic reticulum membrane; membrane; endoplasmic reticulum; cytoplasm; integral to endoplasmic reticulum membrane Molecular Function: identical protein binding; protein serine/threonine kinase activity; protein binding; enzyme binding; protein phosphatase binding; ATP binding; eukaryotic translation initiation factor 2alpha kinase activity; protein kinase activity Biological Process: fat cell differentiation; lactation; translation; positive regulation of protein binding; protein amino acid autophosphorylation; protein amino acid phosphorylation; bone mineralization; positive regulation of transcription from RNA polymerase I promoter; cellular response to glucose starvation; regulation of fatty acid metabolic process; angiogenesis; skeletal development; ER overload response; protein homooligomerization; caspase activation; endoplasmic reticulum organization and biogenesis; ossification; negative regulation of myelination; unfolded protein response; calcium-mediated signaling; chondrocyte development; SREBP-mediated signaling pathway; endocrine pancreas development; peptidyl-serine phosphorylation; unfolded protein response, activation of signaling protein activity; cellular protein metabolic process; insulin-like growth factor receptor signaling pathway; insulin secretion; negative regulation of translation; negative regulation of translation initiation in response to stress; negative regulation of apoptosis Disease: Epiphyseal Dysplasia, Multiple, With Early-onset Diabetes Mellitus
Research Articles on PERK	**1.** PERK/eIF2alpha signaling protects therapy resistant hypoxic cells through induction of glutathione synthesis and protection against ROS.
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