

Product Name: PERK Rabbit Polyclonal Antibody
Catalog #: APRab15978

Summary

Production Name	PERK Rabbit Polyclonal Antibody
Description	Rabbit Polyclonal Antibody
Host	Rabbit
Application	IF, WB, IHC, ELISA
Reactivity	Human, Mouse, Rat

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Purification	Affinity purification

Immunogen

Gene Name	EIF2AK3
Alternative Names	EIF2AK3; PEK; PERK; Eukaryotic translation initiation factor 2-alpha kinase 3; PRKR-like endoplasmic reticulum kinase; Pancreatic eIF2-alpha kinase; HsPEK
Gene ID	9451.0
SwissProt ID	Q9NZJ5. The antiserum was produced against synthesized peptide derived from human EIF2AK3. AA range: 947-996

Application

Dilution Ratio	IF 1:50-200 WB 1:500 - 1:2000. IHC 1:100 - 1:300. ELISA: 1:40000. Not yet tested in other applications.
Molecular Weight	125kD

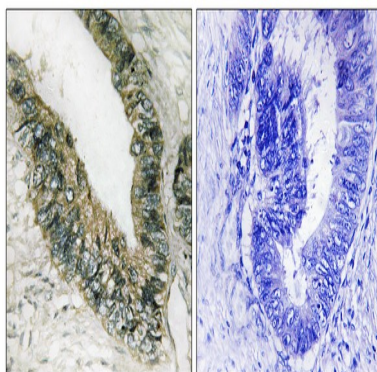
Background

The protein encoded by this gene phosphorylates the alpha subunit of eukaryotic translation-initiation factor 2, leading to its inactivation, and thus to a rapid reduction of translational initiation and repression of global protein synthesis. This protein is thought to modulate mitochondrial function. It is a type I membrane protein located in the endoplasmic reticulum (ER), where it is induced by ER stress caused by malformed proteins. Mutations in this gene are associated with Wolcott-Rallison syndrome. [provided by RefSeq, Sep 2015], catalytic activity: ATP + a protein = ADP + a phosphoprotein., disease: Defects in EIF2AK3 are the cause of Wolcott-Rallison syndrome (WRS) [MIM:226980]; also known as multiple epiphyseal dysplasia with early-onset diabetes mellitus. WRS is a rare autosomal recessive disorder, characterized by permanent neonatal or early infancy insulin-dependent diabetes and, at a later age, epiphyseal dysplasia, osteoporosis, growth retardation and other multisystem manifestations, such as hepatic and renal dysfunctions, mental retardation and cardiovascular abnormalities., domain: The luminal domain senses perturbations in protein folding in the ER, probably through reversible interaction with HSPA5/BIP., enzyme regulation: Perturbation in protein folding in the endoplasmic reticulum (ER) promotes reversible dissociation from HSPA5/BIP and oligomerization, resulting in transautophosphorylation and kinase activity induction., function: 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. Serves as a critical effector of unfolded protein response (UPR)-induced G1 growth arrest due to the loss of cyclin D1., induction: By ER stress., PTM: Autophosphorylated., PTM: N-glycosylated., similarity: Belongs to the protein kinase superfamily., similarity: Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. GCN2 subfamily., similarity: Contains 1 protein kinase domain., subunit: Forms dimers with HSPA5/BIP in resting cells. Oligomerizes in ER-stressed cells. Interacts with DNAJC3., tissue specificity: Ubiquitous. A high level expression is seen in secretory tissues.,

Research Area

Alzheimer's disease;

Image Data

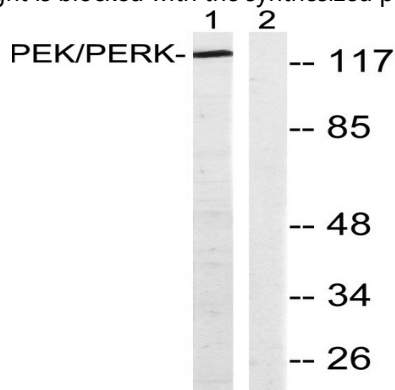


Immunohistochemistry analysis of paraffin-embedded human colon carcinoma, using PERK/PERK Antibody. The picture on

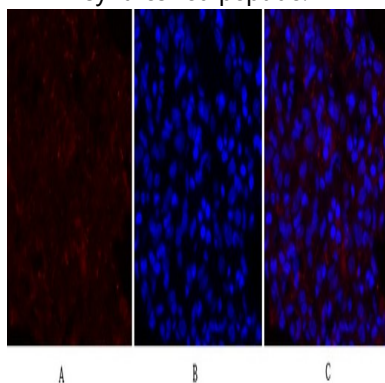
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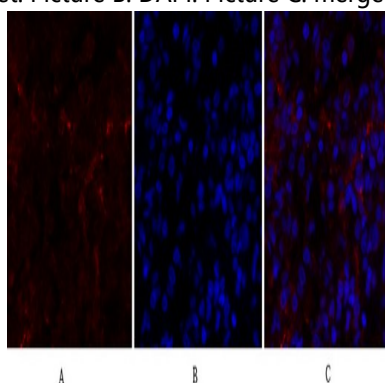
the right is blocked with the synthesized peptide.



Western blot analysis of lysates from MCF-7 cells, using PERK/PERK Antibody. The lane on the right is blocked with the synthesized peptide.

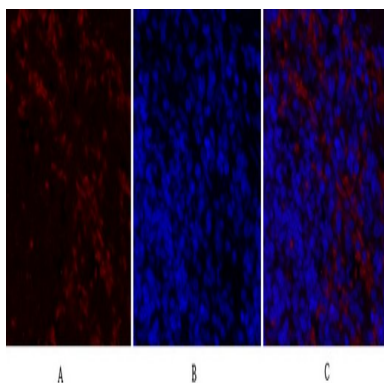


Immunofluorescence analysis of rat-lung tissue. 1, PERK Polyclonal Antibody (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture B: DAPI. Picture C: merge of A+B



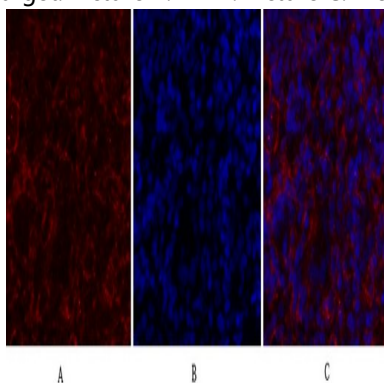
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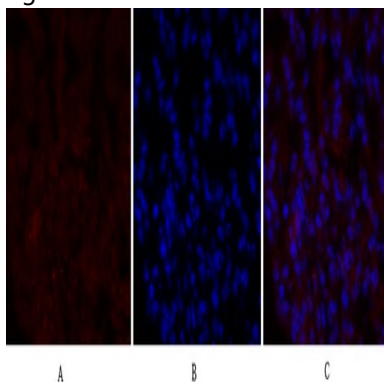
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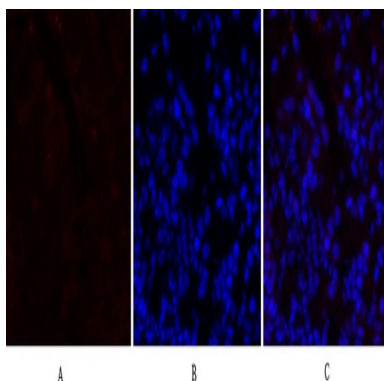
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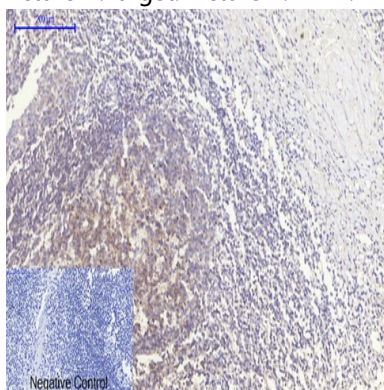


Immunofluorescence analysis of mouse-lung tissue. 1, PERK Polyclonal Antibody (red) was diluted at 1:200 (4°C, overnight) . 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min) .3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture B: DAPI. Picture C: merge of A+B

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Immunohistochemical analysis of paraffin-embedded Human-Tonsil tissue. 1, PERK Polyclonal Antibody was diluted at 1:200 (4°C, overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C, 20min). 3, Secondary antibody was diluted at 1:200 (room temperature, 30min). Negative control was used by secondary antibody only.

Note

For research use only.