



PERK Rabbit mAb

Catalog No	YP-rAb-18002
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IF,ELISA
Gene Name	EIF2AK3
Protein Name	Eukaryotic translation initiation factor 2-alpha kinase 3 (PRKR-like endoplasmic reticulum kinase) (Pancreatic eIF2-alpha kinase) (HsPEK)
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	WB 1:1000-1:5000; IF 1:200-1:1000; ELISA 1:5000-1:20000;
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15° C to -25° C/1 year(Do not lower than -25° C)
Synonyms	EIF2AK3 ; PEK ; PERK ; Eukaryotic translation initiation factor 2-alpha kinase 3 ; PRKR-like endoplasmic reticulum kinase ; Pancreatic eIF2-alpha kinase ; HsPEK
Observed Band	140kD
Calculated Molecular Weight	125kD
Cell Pathway	Endoplasmic reticulum membrane
Tissue Specificity	Ubiquitous. A high level expression is seen in secretory tissues.
Function	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

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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.,

Background

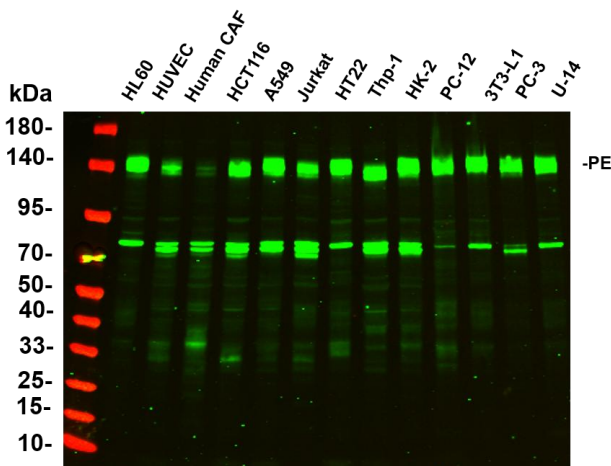
The protein encoded by this gene phosphorylates the alpha subunit of eukaryotic translation-initiation factor 2, leading to its inactivation, and thus to a rapid reduction of translational initiation and repression of global protein synthesis. This protein is thought to modulate mitochondrial function. 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],

matters needing attention

Avoid repeated freezing and thawing!

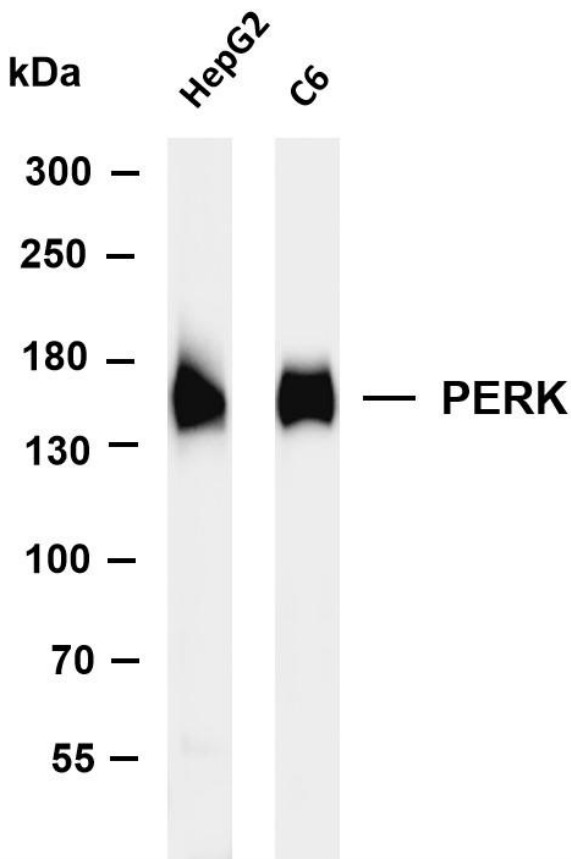
Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

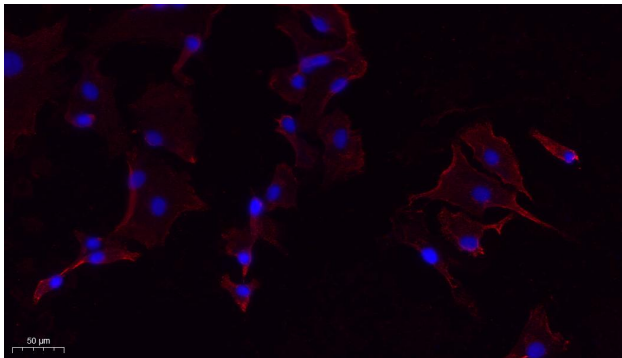


Various whole cell lysates were separated by 4-20% SDS-PAGE, and the primary antibody was used at 4 °C, over night with a 1:2500 dilution . The Dylight 800-conjugated Goat anti-Rabbit antibody

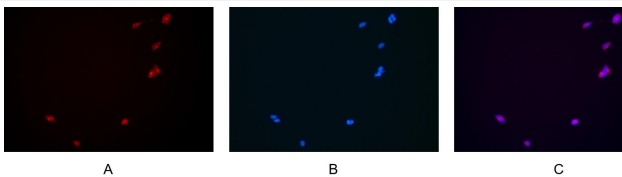




Various whole cell lysates were separated by 4-8% SDS-PAGE, and the membrane was blotted with anti-PERK antibody. The HRP-conjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1: HepG2 Lane 2: C6 Predicted band size: 125kDa Observed band size: 140kDa



Immunofluorescence analysis of A549. 1, primary Antibody(red) was diluted at 1:200(4°C overnight). 2, Goat Anti Rabbit IgG (H&L) - Alexa Fluor 594 Secondary antibody was diluted at 1:1000(room temperature, 50min).3, DAPI(blue) 10min.



Immunofluorescence analysis of HEK293. Picture A: Bax antibody (red). Picture B: DAPI (blue). Picture C: Merge of A+B

