

PERK (Phospho Thr982) Rabbit pAb

CatalogNo: YP1055 **Orthogonal Validated** 

Key Features

Host Species

- Rabbit

Reactivity

- Human

Applications

- WB,IHC,IF,ELISA

MW

- 130kD (Observed)

Isotype

- IgG

Storage

Storage* -15°C to -25°C/1 year (Do not lower than -25°C)

Formulation Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

IF 1:50-200

WB 1:500-2000

IHC 1:100-1:300

ELISA 1:40000

Not yet tested in other applications

Basic Information

Clonality Polyclonal

Immunogen Information

Immunogen The antiserum was produced against synthesized peptide derived from human PEK/PERK around the phosphorylation site of Thr982. AA range:947-996

Specificity Phospho-PERK (T982) Polyclonal Antibody detects endogenous levels of PERK protein only when phosphorylated at T982. The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):THtGQ

Target Information

Gene name EIF2AK3
Protein Name Eukaryotic translation initiation factor 2-alpha kinase 3

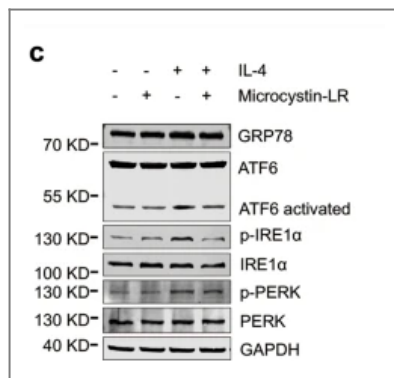
Organism	Gene ID	UniProt ID
Human	9451 ;	Q9NZJ5 ;
Mouse		Q9Z2B5 ;
Rat	29702 ;	Q9Z1Z1 ;

Cellular Localization Endoplasmic reticulum membrane; Single-pass type I membrane protein.

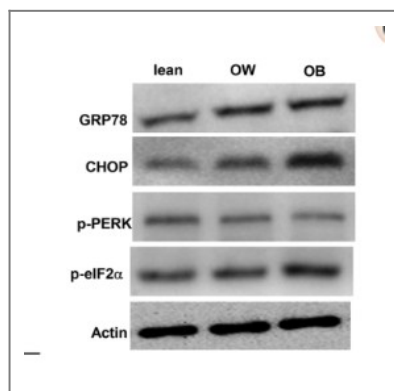
Tissue specificity Ubiquitous. A high level expression is seen in secretory tissues.

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 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. ,

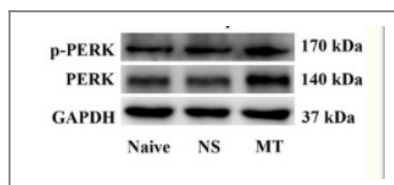
Validation Data



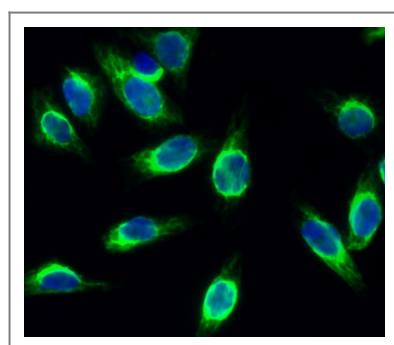
Wang, J., Xu, L., Xiang, Z. et al. Microcystin-LR ameliorates pulmonary fibrosis via modulating CD206+ M2-like macrophage polarization. *Cell Death Dis* 11, 136 (2020).



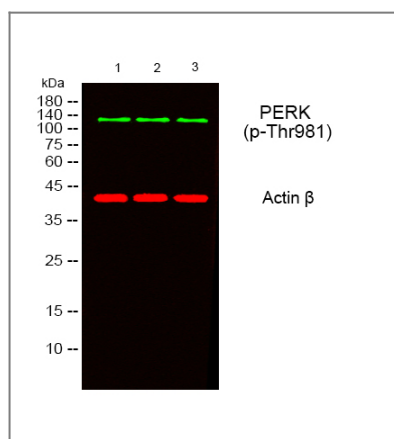
Lei, Ting, et al. "Stress kinases, endoplasmic reticulum stress, and Alzheimer's disease related markers in peripheral blood mononuclear cells from subjects with increased body weight." *Scientific reports* 6 (2016): 30890.



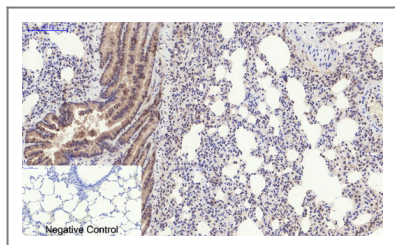
Liu, Daiqiang, et al. "Endoplasmic Reticulum Stress in Spinal Cord Contributes to the Development of Morphine Tolerance." *Frontiers in molecular neuroscience* 11 (2018): 72.



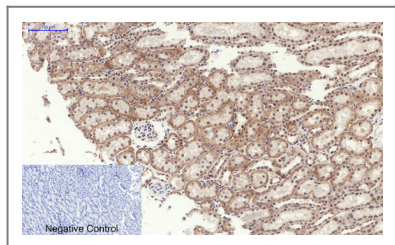
Immunofluorescence analysis of HeLa cell. 1, PERK (phospho Thr981) Polyclonal Antibody (green) was diluted at 1:200 (4°C overnight). 2, Goat Anti Rabbit Alexa Fluor 488 Catalog:RS3211 was diluted at 1:1000 (room temperature, 50min). 3 DAPI (blue) 10min.



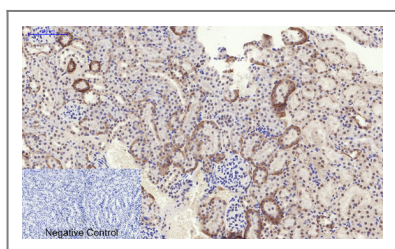
Western blot analysis of lysates from 1) 453, 2) AD293, 3) HeLa cells, (Green) primary antibody was diluted at 1:1000, 4°C over night, secondary antibody (cat:RS23920) was diluted at 1:10000, 37° 1hour. (Red) Actin β Monoclonal Antibody (5B7) (cat:YM3028) antibody was diluted at 1:5000 as loading control, 4°C over night, secondary antibody (cat:RS23710) was diluted at 1:10000, 37° 1hour.



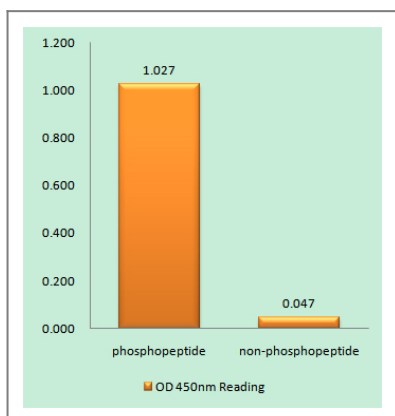
Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1,PERK (phospho Thr981) Polyclonal Antibody was diluted at 1:200 (4°C overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C,20min). 3,Secondary antibody was diluted at 1:200 (room temperature, 30min). Negative control was used by secondary antibody only.



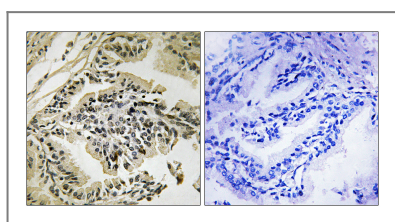
Immunohistochemical analysis of paraffin-embedded Rat-kidney tissue. 1,PERK (phospho Thr981) Polyclonal Antibody was diluted at 1:200 (4°C overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C,20min). 3,Secondary antibody was diluted at 1:200 (room temperature, 30min). Negative control was used by secondary antibody only.



Immunohistochemical analysis of paraffin-embedded Mouse-kidney tissue. 1,PERK (phospho Thr981) 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.



Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using PEK/PERK (Phospho-Thr981) Antibody



Immunohistochemistry analysis of paraffin-embedded human prostate carcinoma, using PEK/PERK (Phospho-Thr981) Antibody. The picture on the right is blocked with the phosphopeptide.

Contact information

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