



PERK (phospho Thr981) Monoclonal Antibody

Catalog No	YP-mAb-14556
Isotype	IgG
Reactivity	Human;Mouse;Rat
Applications	IF;WB;IHC;ELISA
Gene Name	EIF2AK3
Protein Name	Eukaryotic translation initiation factor 2-alpha kinase 3
Immunogen	The antiserum was produced against synthesized peptide derived from human PEK/PERK around the phosphorylation site of Thr981. AA range:947-996
Specificity	Phospho-PERK (T981) Monoclonal Antibody detects endogenous levels of PERK protein only when phosphorylated at T981.
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source	Monoclonal, mouse,IgG
Purification	The antibody was affinity-purified from mouse antiserum by affinity-chromatography using epitope-specific immunogen.
Dilution	IF: 1:50-200 WB 1:500-2000 ,Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications.
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	EIF2AK3; PEK; PERK; Eukaryotic translation initiation factor 2-alpha kinase 3; PRKR-like endoplasmic reticulum kinase; Pancreatic eIF2-alpha kinase; HsPEK
Observed Band	130kD
Cell Pathway	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 lumenal 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 act

**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

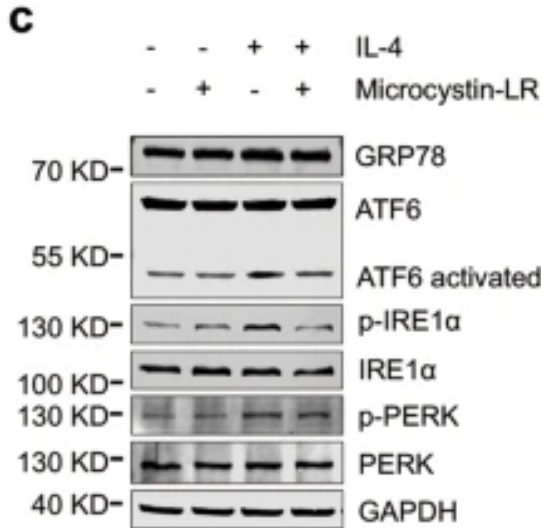
Avoid repeated freezing and thawing!

Usage suggestions

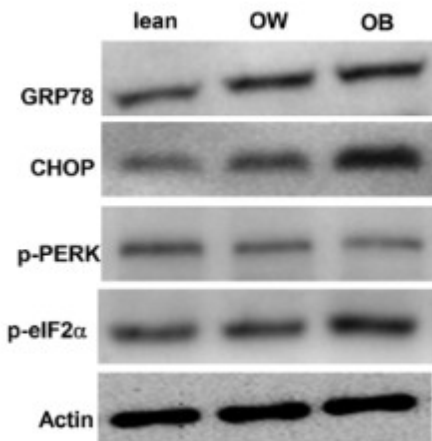
This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.



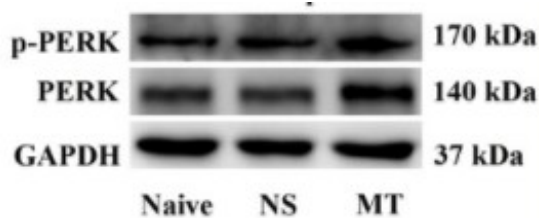
Products Images



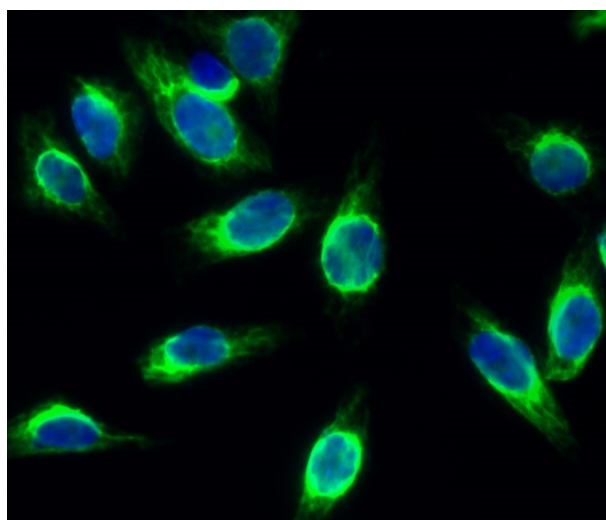
Wang, J., Xu, L., Xiang, Z. et al. Microcystin-LR ameliorates pulmonary fibrosis via modulating CD206+ M2-like macrophage polarization. *Cell Death Dis* 11, 136 (2020).



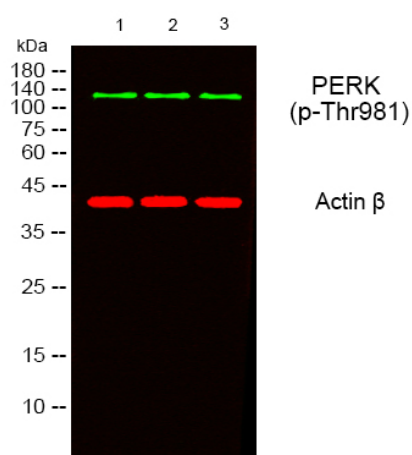
Lei, Ting, et al. "Stress kinases, endoplasmic reticulum stress, and Alzheimer's disease related markers in peripheral blood mononuclear cells from subjects with increased body weight." *Scientific reports* 6 (2016): 30890.



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) Monoclonal Antibody (green) was diluted at 1:200 (4° overnight). 2, Goat Anti mouse 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° 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° over night, secondary antibody (cat: RS23710) was diluted at 1:10000, 37° 1hour.