

Anti-PERK Antibody
Catalog # ABO11333**Specification**

Anti-PERK Antibody - Product Information

Application	WB, ICC
Primary Accession	O9NZJ5
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Eukaryotic translation initiation factor 2-alpha kinase 3(EIF2AK3) detection. Tested with WB, ICC in Human.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-PERK Antibody - Additional Information

Gene ID 9451

Other Names

Eukaryotic translation initiation factor 2-alpha kinase 3, 2.7.11.1, PRKR-like endoplasmic reticulum kinase, Pancreatic eIF2-alpha kinase, HsPEK, EIF2AK3, PEK, PERK

Calculated MW

125216 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human, -
Immunocytochemistry , 0.5-1 µg/ml, Human

Subcellular Localization

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

Tissue Specificity

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

Protein Name

Eukaryotic translation initiation factor 2-alpha kinase 3

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human PERK(163-176aa QWDQDRESMETVPPF).

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. GCN2 subfamily.

Anti-PERK Antibody - Protein Information

Name EIF2AK3

Synonyms PEK, PERK

Function

Metabolic-stress sensing protein kinase that phosphorylates the alpha subunit of eukaryotic translation initiation factor 2 (EIF2S1/eIF-2-alpha) in response to various stress conditions. Key activator of the integrated stress response (ISR) required for adaptation to various stress, such as unfolded protein response (UPR) and low amino acid availability (By similarity). EIF2S1/eIF-2-alpha phosphorylation in response to stress converts EIF2S1/eIF-2-alpha in a global protein synthesis inhibitor, leading to a global attenuation of cap-dependent translation, while concomitantly initiating the preferential translation of ISR-specific mRNAs, such as the transcriptional activators ATF4 and QRICH1, and hence allowing ATF4- and QRICH1-mediated reprogramming (PubMed:33384352). Serves as a critical effector of unfolded protein response (UPR)-induced G1 growth arrest due to the loss of cyclin-D1 (CCND1). Involved in control of mitochondrial morphology and function (By similarity).

Cellular Location

Endoplasmic reticulum membrane; Single-pass type I membrane protein

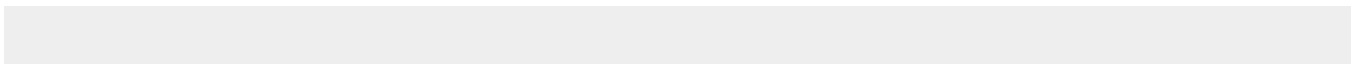
Tissue Location

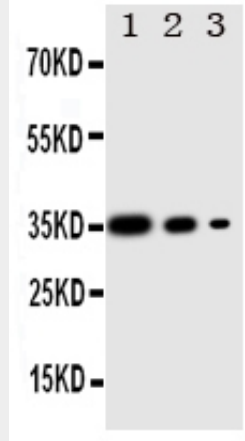
Ubiquitous. A high level expression is seen in secretory tissues

Anti-PERK Antibody - Protocols

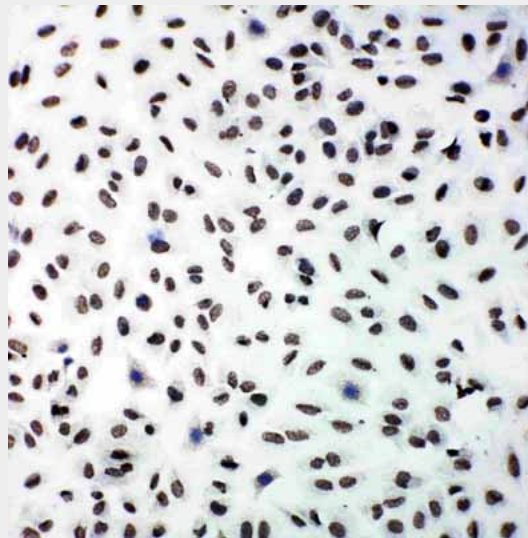
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-PERK Antibody - Images



Anti-PERK antibody, ABO11333, Western blotting Recombinant Protein Detection Source: E.coli derived -recombinant Human EIF2AK3, 35.1KD(162aa tag+ D93-R246) Lane 1: Recombinant Human EIF2AK3 Protein 10ng Lane 2: Recombinant Human EIF2AK3 Protein 5ng Lane 3: Recombinant Human EIF2AK3 Protein 2.5ng



Anti-PERK antibody, ABO11333, ICCICC: A549 Cell

Anti-PERK Antibody - Background

EIF2AK3 (Eukaryotic Translation Initiation Factor 2-Alpha Kinase 3), also called PEK, is an enzyme that in humans is encoded by the EIF2AK3 gene. By fluorescence in situ hybridization and radiation hybrid analysis, Hayes et al. (1999) mapped the EIF2AK3 gene to chromosome 2p12. Harding et al. (2000) reported that a targeted mutation of the mouse *Eif2ak3* gene, which they called *Perk*, abolished the phosphorylation of eIF2-alpha in response to accumulation of malformed proteins in the ER, resulting in abnormally elevated protein synthesis and higher levels of ER stress. Using a library of endoribonuclease-prepared short interfering RNAs (esiRNAs), Kittler et al. (2004) identified 37 genes required for cell division, one of which was EIF2AK3.