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|--------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Product name:</b>     | PERK Rabbit Polyclonal Antibody                                                                     |
| <b>Cat number:</b>       | ABN15978                                                                                            |
| <b>Conjugate:</b>        | Unconjugated                                                                                        |
| <b>Size:</b>             | 100µL                                                                                               |
| <b>Clone:</b>            | Polyclonal                                                                                          |
| <b>Concentration:</b>    | 1mg/ml                                                                                              |
| <b>Host:</b>             | Rabbit                                                                                              |
| <b>Isotype:</b>          | IgG                                                                                                 |
| <b>Immunogen:</b>        | The antiserum was produced against synthesized peptide derived from human EIF2AK3. AA range:947-996 |
| <b>Reactivity:</b>       | Human,Mouse,Rat                                                                                     |
| <b>Applications:</b>     | WB 1:500-1:2000,IHC 1:100-1:300,ICC/IF 1:50-1:200,ELISA 1:20000-1:40000                             |
| <b>Molecular Weight:</b> | 125kDa                                                                                              |
| <b>Purification:</b>     | Affinity purification                                                                               |
| <b>Form:</b>             | Liquid                                                                                              |
| <b>Buffer:</b>           | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.                  |
| <b>Storage:</b>          | Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.        |

**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 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 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.,