

## Product datasheet for **AP14986PU-N**

### **PERK (EIF2AK3) (N-term) Rabbit Polyclonal Antibody**

#### **Product data:**

|                       |  |
|-----------------------|--|
| Product Type:         | Primary Antibodies   |
| Applications:         | IHC  |
| Recommended Dilution: | ELISA: 1/1,000.<br>Immunohistochemistry: 1/50 - 1/100.   |
| Reactivity:           | Human  |
| Host:                 | Rabbit   |
| Isotype:              | Ig   |
| Clonality:            | Polyclonal   |
| Immunogen:            | This antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected from the N-term region of human PERK. |
| Specificity:          | This antibody reacts to PERK.  |
| Formulation:          | PBS with 0.09% (W/V) sodium azide<br>State: Purified<br>State: Liquid purified Ig  |
| Concentration:        | lot specific   |
| Purification:         | Prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS  |
| Conjugation:          | Unconjugated   |
| Storage:              | Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.<br>Avoid repeated freezing and thawing.        |
| Stability:            | Shelf life: one year from despatch.  |
| Gene Name:            | eukaryotic translation initiation factor 2 alpha kinase 3  |
| Database Link:        | <a href="#">Entrez Gene 9451 Human</a><br><a href="#">Q9NZJ5</a>   |



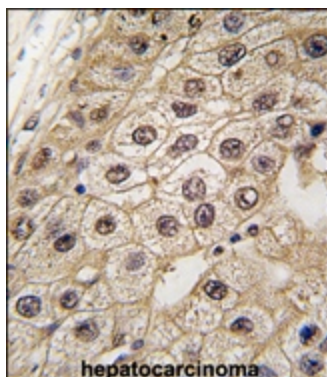
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**Background:**

PERK, a member of the GCN2 subfamily of Ser/Thr protein kinases, 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. It likely serves as a critical effector of unfolded protein response (UPR)-induced G1 growth arrest due to the loss of cyclin D1. Perturbation in protein folding in the endoplasmic reticulum (ER) promotes reversible dissociation from HSPA5/BIP and oligomerization, resulting in transautophosphorylation and kinase activity induction. Expression of this Type I membrane protein is ubiquitous, with highest levels seen in secretory tissues. Defects in EIF2AK3 are the cause of Wolcott-Rallison syndrome (WRS), 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.

**Synonyms:**

PEK, PERK, HsPEK

**Product images:**


Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with PERK antibody (N-term Q163), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining.