

**EIF2AK3 Antibody (N-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP14551a****Specification**

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**EIF2AK3 Antibody (N-term) Blocking Peptide - Product Information**Primary Accession [Q9NZJ5](#)**EIF2AK3 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 9451**Other Names**

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

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**EIF2AK3 Antibody (N-term) Blocking Peptide - 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 QRI1, and hence allowing ATF4- and QRI1-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

**EIF2AK3 Antibody (N-term) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

**EIF2AK3 Antibody (N-term) Blocking Peptide - Images****EIF2AK3 Antibody (N-term) Blocking Peptide - Background**

The protein encoded by this gene 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 is a type I membrane protein located in the endoplasmic reticulum (ER), where it is induced by ER stress caused by misfolded proteins. Mutations in this gene are associated with Wolcott-Rallison syndrome.

**EIF2AK3 Antibody (N-term) Blocking Peptide - References**

Xu, H., et al. Toxicology 277 (1-3), 1-5 (2010) :Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010) Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :Kim, K.W., et al. Oncogene 29(22):3241-3251(2010) Lee do, Y., et al. PLoS ONE 5 (5), E10489 (2010) :