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Product datasheet for AP09082SU-N

EIF2AK3 (601-1115) Rabbit Polyclonal Antibody

Product data:

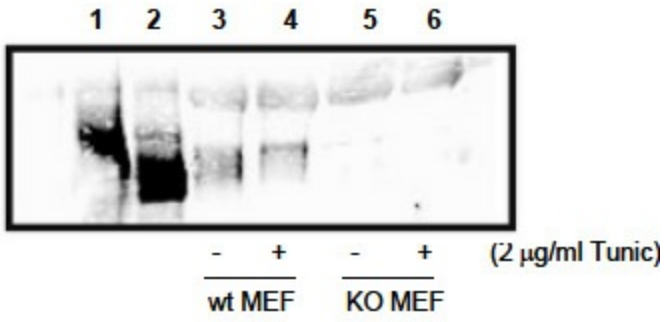
Product Type:	Primary Antibodies
Applications:	IF, IHC, IP, WB
Recommended Dilution:	ELISA: 1/4,000-1/20,0000. Western blot: 1/500–1/3000. Expect bands of ~150kDa in the appropriate cell lysate or extract. Immunoprecipitaion: 10-30 µl. Immunoflourescence. Immunohistochemistry on Paraffin Sections.
Reactivity:	Mouse
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Recombinant fusion protein from amino acids 601-1115 of Mouse deltaN PERK
Specificity:	This antiserum is directed against PERK and reacts with the PERK from Mouse tissues.
Formulation:	0.02M Potassium Phosphate, 0.15M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide as preservative. State: Serum State: Liquid (sterile filtered) Serum.
Concentration:	lot specific
Conjugation:	Unconjugated
Storage:	Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing. Should this product contain a precipitate we recommend microcentrifugation before use.
Stability:	Shelf life: one year from despatch.
Database Link:	Q9Z2B5

View online »

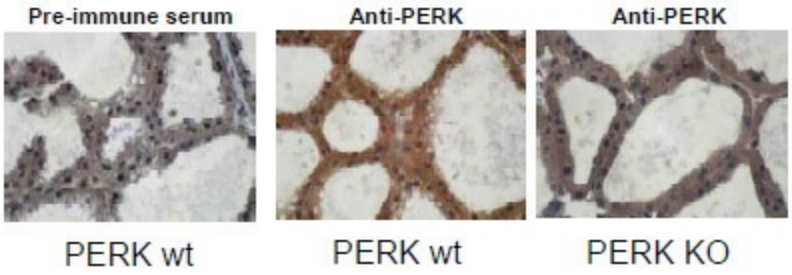
Background: The PKR-like endoplasmic reticulum kinase (PERK, also know as Eukaryotic translation initiation factor 2-alpha kinase 3) is a type I transmembrane protein localized to the endoplasmic reticulum (ER). PERK consists of an N-terminal ER luminal domain, a membrane-spanning region, and a cytosolic C-terminal serine/threonine kinase domain (1). The luminal domain of PERK is bound to the ER chaperone GRP78 in unstressed cells (2). PERK activation occurs upon accumulation of misfolded proteins and the ER lumen, which triggers GRP78 dissociation from PERK thereby allowing PERK dimerization and autophosphorylation (3, 4). PERK phosphorylates two established targets: the eukaryotic translation initiation factor 2 alpha (eIF2alpha, (1)) and the Nrf2 transcription factor (5). Phosphorylation of eIF2alpha results in attenuation of translation initiation (6). The translational block also contributes to cell cycle arrest due to loss of the G1 regulatory protein, cyclin D1 (7). PERK-dependent phosphorylation of Nrf2 promotes transcription of phase II detoxifying enzymes which is critically important for elimination of intracellular reactive oxygen species (8). Thus, while inhibiting new protein synthesis and thereby decreasing the ER protein load PERK simultaneously induces expression of genes that help restore cellular redox homeostasis and promote survival.

Synonyms: PEK, PERK, HsPEK

Product images:



Western blot analysis: AP09082SU-N PERK antibody staining of cell lysates. 300g PERK over-expressing 293T cell lysate (Lanes 1 and 2), or 800g wild type (Lanes 3 and 4), and PERK knock out (Lanes 5 and 6) MEF cell lysate were immunoprecipated with 15l anti



Immunohistochemistry staining of Mouse mammary gland samples from lactating mice (L10) using AP09082SU-N PERK antibody. Positive staining signal observed in wild type Mouse sample with anti-PERK staining only (middle image), but not in the knock out mouse