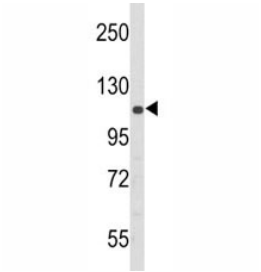
EIF2AK3 Antibody / PERK Antibody (F50992)

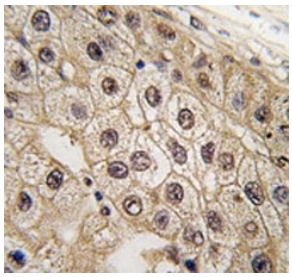
Catalog No.	Formulation	Size
F50992-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F50992-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Purified
UniProt	Q9NZJ5
Localization	Cytoplasmic, ER membrane
Applications	Western blot: 1:1000 IHC (Paraffin): 1:50-1:100
Limitations	This EIF2AK3 Antibody / PERK Antibody is available for research use only.



EIF2AK3 Antibody HEK293 Cell WB. Western blot analysis was performed on human HEK293 cell lysate using EIF2AK3 Antibody. A specific immunoreactive band is detected at approximately 125 kDa, consistent with the predicted molecular weight of PERK (EIF2AK3). The blot demonstrates strong target detection with minimal background, supporting specific recognition of endogenous EIF2AK3 in human cells. These results demonstrate that this PERK Antibody is suitable for Western blot detection of EIF2AK3 in HEK293 cell lysates.



EIF2AK3 Antibody Human Hepatocarcinoma IHC. Immunohistochemistry was performed on FFPE human hepatocarcinoma tissue using EIF2AK3 Antibody. Tumor cells exhibit moderate cytoplasmic staining with focal membranous accentuation, while nuclei remain largely negative, consistent with the expected localization of PERK within the endoplasmic reticulum. The staining pattern supports expression of EIF2AK3 in malignant hepatocytes and is in agreement with its established role in regulating the endoplasmic reticulum stress response in cancer cells. These results demonstrate that this PERK Antibody is suitable for immunohistochemical detection of EIF2AK3 in formalin-fixed, paraffin-embedded human hepatocarcinoma tissue.

Description

EIF2AK3 Antibody recognizes eukaryotic translation initiation factor 2 alpha kinase 3 (EIF2AK3), more commonly known as protein kinase R-like endoplasmic reticulum kinase (PERK). EIF2AK3 is a transmembrane serine/threonine kinase located within the endoplasmic reticulum membrane, where it functions as one of the three principal sensors of endoplasmic reticulum stress. Under normal physiological conditions, EIF2AK3 remains inactive through association with the molecular chaperone HSPA5, also known as BiP. Accumulation of unfolded or misfolded proteins within the endoplasmic reticulum triggers activation of EIF2AK3, initiating signaling pathways that help restore protein homeostasis. NSJ Bioreagents supplies EIF2AK3 Antibody for reliable detection of this essential stress-responsive kinase in a variety of research applications.

Upon activation, EIF2AK3 phosphorylates eukaryotic translation initiation factor 2 alpha, producing a transient reduction in global protein synthesis while selectively promoting translation of stress-responsive transcripts such as ATF4. This adaptive response enhances the expression of genes involved in protein folding, amino acid metabolism, oxidative stress defense, autophagy, and endoplasmic reticulum quality control. When cellular stress persists, EIF2AK3 signaling also promotes apoptosis through downstream mediators including DDIT3, commonly known as CHOP. Consequently, EIF2AK3 Antibody is widely used to investigate unfolded protein response signaling, translational regulation, and cellular adaptation to proteotoxic stress.

Mutations in EIF2AK3 cause Wolcott-Rallison syndrome, a rare inherited disorder characterized by permanent neonatal diabetes, skeletal abnormalities, and multisystem dysfunction. In addition, dysregulated EIF2AK3 signaling has been implicated in numerous diseases including cancer, neurodegenerative disorders, diabetes mellitus, and metabolic disease, making PERK an important therapeutic target. Researchers frequently use antibodies against EIF2AK3 to study endoplasmic reticulum stress signaling, interactions among unfolded protein response pathways, and mechanisms governing cell survival or apoptosis under conditions of chronic stress.

An EIF2AK3 Antibody is a valuable reagent for investigating endoplasmic reticulum stress, unfolded protein response signaling, translational regulation, and cellular homeostasis. By enabling reliable detection of the kinase also known as PERK, an EIF2AK3 Antibody supports research into protein quality control, metabolic regulation, neurodegeneration, cancer biology, and inherited disorders associated with impaired endoplasmic reticulum function.

For a broader overview of this stress-response kinase and additional validated reagents, visit our PERK Antibody / Endoplasmic Reticulum Stress Kinase Antibody page.

Application Notes

Titration of the EIF2AK3 Antibody / PERK Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 148-175 from the human protein was used as the immunogen for this PERK / EIF2AK3antibody.

Storage

Aliquot the PERK / EIF2AK3 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

PERK antibody, Protein Kinase R Like Endoplasmic Reticulum Kinase antibody, PRKR Like ER Kinase antibody, Pancreatic EIF2 Alpha Kinase antibody, PEK antibody, Eukaryotic Translation Initiation Factor 2 Alpha Kinase 3 antibody

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