Data Sheet (Cat.No.TMAH-00940)

Anti-Phospho-PERK(Thr981) Antibody (7J51)

Product Details

Ig Type:	IgG1
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	7J51
Purification:	Protein G purified

Applications

Verified Activity:	1. Immunofluorescence staining of A549 cells with TMAH-00940 at 1:100, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Mouse IgG (H+L). 2. Immunofluorescence staining of Hela cells with TMAH-00940 at 1:100, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Mouse IgG (H+L). 3. Immunofluorescence staining of U87 cells with TMAH-00940 at 1:100, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Mouse IgG (H+L).
Application:	ELISA, IF

Properties

Purity:	>95%
Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	Recombinant Protein: Human Eukaryotic translation initiation factor 2-alpha kinase 3 Protein (115-330AA)
Antigen Species:	Human
Gene ID:	9451
Uniprot ID:	Q9NZJ5
Synonyms:	Pancreatic eIF2-alpha kinase;p-PERK(T981);p-PERK(Thr981);Pancreatic eIF2 alpha kinase; E2AK3_HUMAN;HRI;Heme regulated EIF2 alpha kinase;WRS;PEK;EC 2.7.11.1;Eukaryotic translation initiation factor 2 alpha kinase 3;Eif2ak3;DKFZp781H1925;PRKR like endoplasmic reticulum kinase;Phospho-PERK(T981);HsPEK;PERK(p-Thr981);PERK(p-T981)
Biology Area:	Epigenetics and Nuclear Signaling

Research Background

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. 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 QRICH1, and hence allowing ATF4- and QRICH1-mediated reprogramming. 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.

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