

Anti-GCN2 EIF2AK4 Rabbit Monoclonal Antibody Catalog # ABO14399

Specification

Anti-GCN2 EIF2AK4 Rabbit Monoclonal Antibody - Product Information

| | |
|-------------------|------------------------|
| Application | WB, IHC, IF, ICC, FC |
| Primary Accession | Q9P2K8 |
| Host | Rabbit |
| Isotype | Rabbit IgG |
| Reactivity | Human |
| Clonality | Monoclonal |
| Format | Liquid |

Description

Anti-GCN2 EIF2AK4 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human.

Anti-GCN2 EIF2AK4 Rabbit Monoclonal Antibody - Additional Information

Gene ID 440275

Other Names

eIF-2-alpha kinase GCN2, GCN2-like protein, EIF2AK4 ([HGNC:19687](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=19687)), GCN2, KIAA1338

Application Details

WB 1:500-1:2000
IHC 1:50-1:200
ICC/IF 1:50-1:200
FC 1:100

Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen

A synthesized peptide derived from human GCN2 Can phosphorylate the alpha subunit of EIF2 and may mediate translational control.

Purification

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-GCN2 EIF2AK4 Rabbit Monoclonal Antibody - Protein Information

Name EIF2AK4 ([HGNC:19687](#))

Synonyms GCN2, KIAA1338**Function**

Metabolic-stress sensing protein kinase that phosphorylates the alpha subunit of eukaryotic translation initiation factor 2 (EIF2S1/eIF-2-alpha) in response to low amino acid availability (PubMed:25329545, PubMed:32610081). Plays a role as an activator of the integrated stress response (ISR) required for adaptation to amino acid starvation (By similarity). EIF2S1/eIF-2-alpha phosphorylation in response to stress converts EIF2S1/eIF-2-alpha into a global protein synthesis inhibitor, leading to a global attenuation of cap-dependent translation, and thus to a reduced overall utilization of amino acids, while concomitantly initiating the preferential translation of ISR- specific mRNAs, such as the transcriptional activator ATF4, and hence allowing ATF4-mediated reprogramming of amino acid biosynthetic gene expression to alleviate nutrient depletion (PubMed:32610081). Binds uncharged tRNAs (By similarity). Required for the translational induction of protein kinase PRKCH following amino acid starvation (By similarity). Involved in cell cycle arrest by promoting cyclin D1 mRNA translation repression after the unfolded protein response pathway (UPR) activation or cell cycle inhibitor CDKN1A/p21 mRNA translation activation in response to amino acid deprivation (PubMed:26102367). Plays a role in the consolidation of synaptic plasticity, learning as well as formation of long-term memory (By similarity). Plays a role in neurite outgrowth inhibition (By similarity). Plays a proapoptotic role in response to glucose deprivation (By similarity). Promotes global cellular protein synthesis repression in response to UV irradiation independently of the stress-activated protein kinase/c-Jun N-terminal kinase (SAPK/JNK) and p38 MAPK signaling pathways (By similarity). Plays a role in the antiviral response against alphavirus infection; impairs early viral mRNA translation of the incoming genomic virus RNA, thus preventing alphavirus replication (By similarity).

Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:Q9QZ05}.

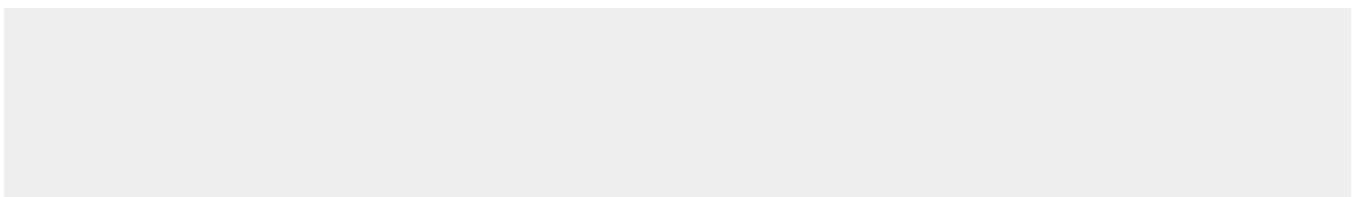
Tissue Location

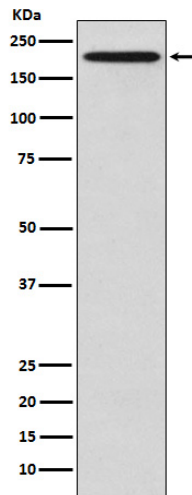
Widely expressed (PubMed:10504407). Expressed in lung, smooth muscle cells and macrophages (PubMed:24292273)

Anti-GCN2 EIF2AK4 Rabbit Monoclonal Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-GCN2 EIF2AK4 Rabbit Monoclonal Antibody - Images



Western blot analysis of GCN2 expression in HeLa cell lysate.