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EIF2S1 Antibody (N-term) Blocking peptide
Synthetic peptide
Catalog # BP13469a

Specification

EIF2S1 Antibody (N-term) Blocking peptide - Product Information

Primary Accession P05198

EIF2S1 Antibody (N-term) Blocking peptide - Additional Information

Gene ID 1965

Other Names
Eukaryotic translation initiation factor 2 subunit 1, Eukaryotic translation initiation factor 2 subunit alpha, eIF-2-alpha, eIF-2A, eIF-2alpha, EIF2S1, EIF2A

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP13469a was selected from the N-term region of EIF2S1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

EIF2S1 Antibody (N-term) Blocking peptide - Protein Information

Name EIF2S1 (HGNC:3265)

Synonyms EIF2A

Function
Member of the eIF2 complex that functions in the early steps of protein synthesis by forming a ternary complex with GTP and initiator tRNA (PubMed:16289705). This complex binds to a 40S ribosomal subunit, followed by mRNA binding to form a 43S pre-initiation complex (43S PIC) (PubMed:16289705). Junction of the 60S ribosomal subunit to form the 80S initiation complex is preceded by hydrolysis of the GTP bound to eIF2 and release of an eIF2-GDP binary complex (PubMed:16289705). In order for eIF2 to recycle and catalyze another round of initiation, the GDP bound to eIF2 must exchange with GTP by way of a reaction catalyzed by eIF2B

(PubMed:16289705). EIF2S1/ component of the integrated stress response (ISR), required for adaptation to various stress: phosphorylation by metabolic-stress sensing protein kinases (EIF2AK1/HRI, EIF2AK2/PKR, EIF2AK3/PERK and EIF2AK4/GCN2) in response to stress converts EIF2S1/eIF2-alpha in a global protein synthesis inhibitor, leading to an 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 (PubMed:19131336, PubMed:33384352).

Cellular Location
Cytoplasm, Stress granule {ECO:0000250|UniProtKB:Q6ZWX6}. Cytoplasm, cytosol {ECO:0000250|UniProtKB:P56286}. Note=Colocalizes with NANOS3 in the stress granules. {ECO:0000250|UniProtKB:Q6ZWX6}

EIF2S1 Antibody (N-term) Blocking peptide - Protocols

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

- Blocking Peptides

EIF2S1 Antibody (N-term) Blocking peptide - Images

EIF2S1 Antibody (N-term) Blocking peptide - Background

The translation initiation factor EIF2 catalyzes the firstregulated step of protein synthesis initiation, promoting thebinding of the initiator tRNA to 40S ribosomal subunits. Bindingoccurs as a ternary complex of methionyl-tRNA, EIF2, and GTP. EIF2is composed of 3 nonidentical subunits, the 36-kD EIF2-alphasubunit (EIF2S1), the 38-kD EIF2-beta subunit (EIF2S2; MIM 603908),and the 52-kD EIF2-gamma subunit (EIF2S3; MIM 300161). The rate offormation of the ternary complex is modulated by thephosphorylation state of EIF2-alpha (Ernst et al., 1987 [PubMed2948954]).

EIF2S1 Antibody (N-term) Blocking peptide - References

Shiota, M., et al. Int. J. Oncol. 36(6):1521-1531(2010)Kulkarni, A.P., et al. Indian J. Biochem. Biophys. 47(2):67-74(2010)Wehner, K.A., et al. Mol. Cell. Biol. 30(8):2006-2016(2010)Backes, S., et al. J. Gen. Virol. 91 (PT 2), 470-482 (2010) :Sreejith, R.K., et al. Biochem. Biophys. Res. Commun. 390(2):273-279(2009)