ARG57723
anti-eIF2 alpha antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody recognizes eIF2 alpha
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, WB
Specificity	This antibody detects endogenous levels of eIF2 alpha and does not cross-react with related proteins.
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Target Name	eIF2 alpha
Species	Human
Immunogen	Purified recombinant Human eIF2 alpha protein fragments expressed in E. coli.
Conjugation	Un-conjugated
Alternate Names	eIF-2alpha; EIF-2A; Eukaryotic translation initiation factor 2 subunit 1; EIF2; EIF-2alpha; EIF2A; eIF-2-alpha; Eukaryotic translation initiation factor 2 subunit alpha; eIF-2A; EIF-2

Application Instructions

Application table

Application	Dilution
ICC/IF	1:200
WB	1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

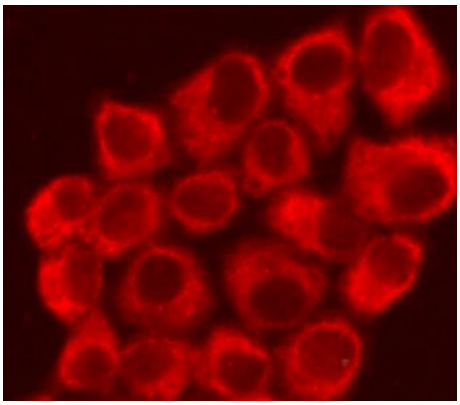
Properties

Form	Liquid
Purification	Affinity purified.
Buffer	PBS (pH 7.4), 0.03% Proclin300 and 50% Glycerol.
Preservative	0.03% Proclin300
Stabilizer	50% Glycerol
Concentration	4 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

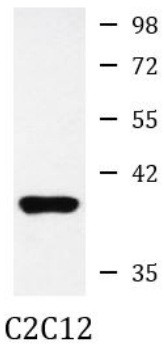
Gene Symbol	EIF2S1
Gene Full Name	eukaryotic translation initiation factor 2, subunit 1 alpha, 35kDa
Background	The translation initiation factor EIF2 catalyzes the first regulated step of protein synthesis initiation, promoting the binding of the initiator tRNA to 40S ribosomal subunits. Binding occurs as a ternary complex of methionyl-tRNA, EIF2, and GTP. EIF2 is composed of 3 nonidentical subunits, the 36-kD EIF2-alpha subunit (EIF2S1), the 38-kD EIF2-beta subunit (EIF2S2; MIM 603908), and the 52-kD EIF2-gamma subunit (EIF2S3; MIM 300161). The rate of formation of the ternary complex is modulated by the phosphorylation state of EIF2-alpha (Ernst et al., 1987 [PubMed 2948954]).[supplied by OMIM, Feb 2010]
Function	Functions in the early steps of protein synthesis by forming a ternary complex with GTP and initiator tRNA. This complex binds to a 40S ribosomal subunit, followed by mRNA binding to form a 43S preinitiation complex. Junction of the 60S ribosomal subunit to form the 80S initiation complex is preceded by hydrolysis of the GTP bound to eIF-2 and release of an eIF-2-GDP binary complex. In order for eIF-2 to recycle and catalyze another round of initiation, the GDP bound to eIF-2 must exchange with GTP by way of a reaction catalyzed by eIF-2B. [UniProt]
Calculated Mw	36 kDa
PTM	Substrate for at least 4 kinases: EIF2AK1/HRI, EIF2AK2/PKR, EIF2AK3/PERK and EIF2AK4/GCN2. Phosphorylation stabilizes the eIF-2/GDP/eIF-2B complex and prevents GDP/GTP exchange reaction, thus impairing the recycling of eIF-2 between successive rounds of initiation and leading to global inhibition of translation (PubMed:15207627, PubMed:18032499). Phosphorylated; phosphorylation on Ser-52 by the EIF2AK4/GCN2 protein kinase occurs in response to amino acid starvation and UV irradiation (By similarity). [UniProt]

Images



ARG57723 anti-eIF2 alpha antibody ICC/IF image

Immunofluorescence: HeLa cells fixed by anhydrous methanol for 2 h at -20°C and stained with ARG57723 anti-eIF2 alpha antibody at 1:200 dilution.



ARG57723 anti-eIF2 alpha antibody WB image

Western blot: C2C12 cell lysate stained with ARG57723 anti-eIF2 alpha antibody at 1:1000 dilution.