

## ARG57111 anti-eIF2 alpha antibody [5E10]

Package: 50 µl  
Store at: -20°C

### Summary

|                     |   |
|---------------------|---|
| Product Description | Mouse Monoclonal antibody [5E10] recognizes eIF2 alpha  |
| Tested Reactivity   | Hu  |
| Tested Application  | ICC/IF, WB  |
| Host                | Mouse   |
| Clonality           | Monoclonal  |
| Clone               | 5E10  |
| Isotype             | IgG2b, kappa  |
| Target Name         | eIF2 alpha  |
| Species             | Human   |
| Immunogen           | Recombinant fragment around aa. 1-315 of Human eIF2 alpha   |
| 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

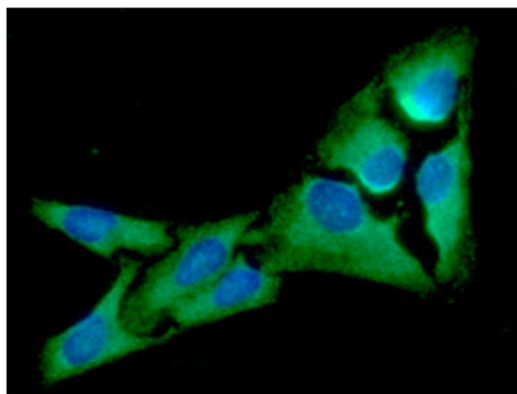
|                   |  |                 |
|-------------------|--|-----------------|
| Application table | Application  | Dilution        |
|                   | ICC/IF   | Assay-dependent |
|                   | WB   | 1:1000          |
| Application Note  | * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist. |                 |

### Properties

|                     |   |
|---------------------|---|
| Form                | Liquid  |
| Purification        | Purification with Protein G.  |
| Buffer              | PBS (pH 7.4), 0.02% Sodium azide and 10% Glycerol.  |
| Preservative        | 0.02% Sodium azide  |
| Stabilizer          | 10% Glycerol  |
| Concentration       | 1 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.  |

|                |  |
|----------------|--|
| Database links | <a href="#">GeneID: 1965 Human</a><br><a href="#">Swiss-port # P05198 Human</a>  |
| 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).  |

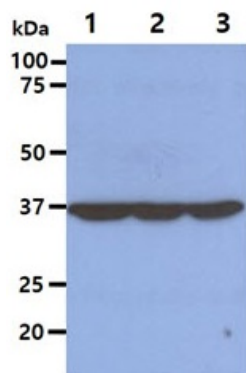
## Images



ARG57111 anti-eIF2 alpha antibody [5E10] ICC/IF image

Immunofluorescence: HeLa cells line stained with ARG57111 anti-eIF2 alpha antibody [5E10] at 1:100 (Green).

DAPI (Blue) for nucleus staining.



ARG57111 anti-eIF2 alpha antibody [5E10] WB image

Western blot: 40 µg of 1) HeLa, 2) Jurkat, and 3) NIH-3T3 cell lysates stained with ARG57111 anti-eIF2 alpha antibody [5E10] at 1:1000.