

## Recombinant Mouse Eif2s1 Protein, Myc/DDK-tagged

Cat. No. Eif2s1-2775M Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Purified recombinant protein of mouse full-length eukaryotic translation initiation factor 2, subunit 1 alpha (Eif2s1), with C-terminal MYC/DDK tag, expressed in HEK293T cells.

**Species** Mouse

**Source** HEK293

**Description** 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 pre-initiation 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. EIF2S1/eIF-2-alpha is a key 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/eIF-2-alpha in a global protein synthesis inhibitor, leading to a attenuation of cap-dependent translation, while concomitantly initiating the preferential translation of ISR-specific mRNAs, such as the transcriptional activator ATF4, and hence allowing ATF4-mediated reprogramming.

**Molecular Mass** 36.1 kDa

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<b>Purity</b>	> 80% as determined by SDS-PAGE and Coomassie blue staining
<b>Stability</b>	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
<b>Storage</b>	Store at -80 centigrade after receiving vials.
<b>Concentration</b>	>50 µg/mL as determined by microplate BCA method
<b>Storage Buffer</b>	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

## GENE INFORMATION

<b>Gene Name</b>	Eif2s1 eukaryotic translation initiation factor 2, subunit 1 alpha [ Mus musculus (house mouse) ]
<b>Official Symbol</b>	Eif2s1
<b>Synonyms</b>	EIF2S1; eukaryotic translation initiation factor 2, subunit 1 alpha; eukaryotic translation initiation factor 2 subunit 1; eIF-2A; eIF-2alpha; eIF-2-alpha; eukaryotic translation initiation factor 2A; eukaryotic translation initiation factor 2 subunit alpha; 35kDa; Eif2a; eIF2alpha; 0910001O23Rik; 2410026C18Rik
<b>Gene ID</b>	13665
<b>mRNA Refseq</b>	NM_026114
<b>Protein Refseq</b>	NP_080390
<b>UniProt ID</b>	Q6ZWX6

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