

## Product datasheet for MR209482L4

# Eif2ak1 (NM\_013557) Mouse Tagged Lenti ORF Clone

**Product data:** 

**Product Type:** Expression Plasmids

**Product Name:** Eif2ak1 (NM\_013557) Mouse Tagged Lenti ORF Clone

Tag:mGFPSymbol:Eif2ak1Synonyms:HCR; Hri

Mammalian Cell Selection:

Puromycin

**Vector:** pLenti-C-mGFP-P2A-Puro (PS100093)

E. coli Selection: Chloramphenicol (34 ug/mL)

ORF Nucleotide

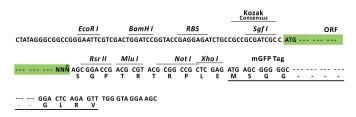
The ORF insert of this clone is exactly the same as(MR209482).

Sequence:

**Restriction Sites:** Sgfl-Rsrll

**Cloning Scheme:** 





<sup>\*</sup> The last codon before the Stop codon of the ORF.



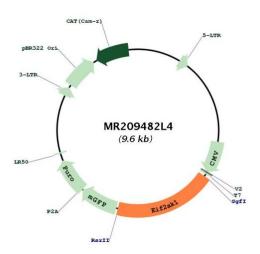
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#### Plasmid Map:



**ACCN:** NM\_013557 **ORF Size:** 1860 bp

**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of

reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing

variants is recommended prior to use. More info

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression

varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube

containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:** 1. Centrifuge at 5,000xg for 5min.

2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.

3. Close the tube and incubate for 10 minutes at room temperature.

4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid

at the bottom.

5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of

shipping when stored at -20°C.

RefSeq: <u>NM 013557.2</u>, <u>NP 038585.2</u>

RefSeq Size: 2805 bp RefSeq ORF: 1860 bp



### Eif2ak1 (NM\_013557) Mouse Tagged Lenti ORF Clone - MR209482L4

 Locus ID:
 15467

 UniProt ID:
 Q9Z2R9

 Cytogenetics:
 5 G2

**Gene Summary:** Inhibits protein synthesis at the translation initiation level, in response to various stress

conditions, including oxidative stress, heme deficiency, osmotic shock and heat shock. Exerts its function through the phosphorylation of EIF2S1 at 'Ser-48' and 'Ser-51', thus preventing its recycling. Binds hemin forming a 1:1 complex through a cysteine thiolate and histidine nitrogenous coordination. This binding occurs with moderate affinity, allowing it to sense the heme concentration within the cell. Thanks to this unique heme-sensing capacity, plays a crucial role to shut off protein synthesis during acute heme-deficient conditions. In red blood cells (RBCs), controls hemoglobin synthesis ensuring a coordinated regulation of the synthesis of its heme and globin moieties. Thus plays an essential protective role for RBC survival in anemias of iron deficiency. Similarly, in hepatocytes, involved in heme-mediated translational control of CYP2B and CYP3A and possibly other hepatic P450 cytochromes. May also contain ER stress during acute heme-deficient conditions.[UniProtKB/Swiss-Prot

Function]