# Recombinant Mouse AARS/alanyl-tRNA synthetase Protein (His Tag)



Catalog Number: PKSM040710

Note: Centrifuge before opening to ensure complete recovery of vial contents.

# **Description**

Synonyms AI316495;C76919;sti

**Species** Mouse

**Expression Host** Baculovirus-Insect Cells

Sequence Met 1-Asn 968

AccessionQ8BGQ7Calculated Molecular Weight108.3 kDaObserved molecular weight105 kDaTagC-His

## **Properties**

**Purity** > 88 % as determined by reducing SDS-PAGE.

**Endotoxin**  $< 1.0 \text{ EU per } \mu \text{g of the protein as determined by the LAL method.}$ 

**Storage** Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to

-80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots

of reconstituted samples are stable at < -20°C for 3 months.

**Shipping** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation** Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% glycerol

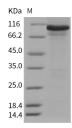
Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as

protectants before lyophilization.

Please refer to the specific buffer information in the printed manual.

**Reconstitution** Please refer to the printed manual for detailed information.

#### Data



> 88 % as determined by reducing SDS-PAGE.

# **Background**

Alanyl-tRNA synthetase (AARS) belongs to the family of ligases, specifically those forming carbon-oxygen bonds in aminoacyl-tRNA and related compounds. This enzyme participates in alanine and aspartate metabolism and aminoacyl-tRNA biosynthesis. Alanyl-tRNA synthetase (AlaRS) catalyzes synthesis of Ala-tRNA (Ala) and hydrolysis of misacylated Ser- and Gly-tRNA (Ala) at 2 different catalytic sites. Their role is not confined to catalyze the attachment of amino acids to transfer RNAs and thereby establish the rules of genetic code by virtue of matching the nucleotide triplet of anticodon with cognate amino acid. Under apoptotic conditions in cell culture, the full-length enzyme is secreted, and the two cytokine activities can be generated by leukocyte elastase, an extracellular protease. Secretion of this tRNA synthetase may contribute to apoptosis both by arresting translation and producing needed cytokines. This protein could

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be an attractive target of drugs against bacterial, fungal and parasitic infections.

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