

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

Catalog Number: 50384-M08B



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

AI316495, C76919, MGC37368, sti

Protein Construction:

A DNA sequence encoding the mouse AARS (Q8BGQ7) (Met 1-Asn 968) was fused with a polyhistidine tag at the C-terminus.

Source: Mouse

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 88 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met 1

Molecular Mass:

The secreted recombinant mouse AARS consists of 978 amino acids and has a calculated molecular mass of 108.3 kDa. The recombinant protein migrates as an approximately 105 kDa band in SDS-PAGE under reducing conditions.

Formulation:

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

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

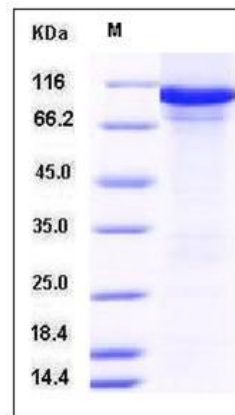
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

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. It is shown that human tyrosyl-tRNA synthetase can be split into two fragments with distinct cytokine activities. The endothelial monocyte-activating polypeptide II-like carboxy-terminal domain has potent leukocyte and monocyte chemotaxis activity and stimulates production of myeloperoxidase, tumor necrosis factor- α , and tissue factor. The catalytic amino-terminal domain binds to the interleukin-8 type A receptor and functions as an interleukin-8-like cytokine. 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 proteins could be an attractive target of drugs, not only against the mentioned illnesses but also against bacterial, fungal and parasitic infections.

References

1. Wakasugi K. et al., 1999, Science. 284 (5411): 147-51.
2. Sokabe M. et al., 2009, Proc Natl Acad Sci. 106 (27): 11028-33.
3. Skupińska M. et al., 2009, Postepy Biochem. 55 (4): 373-84.

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Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>