



Human Alanyl-tRNA Synthetase (PL-12)

Origin:	Recombinant	Cat. No.:	41490
Tag:	N-terminal 6xHis	Size:	0.1 mg
Source:	<i>Spodoptera frugiperda</i> Sf9	Purity:	>85%
Other Names:	AARS	Species:	Human

Description

Expressed in insect Sf9 cells with total 992 AA. Mw: 109.8 KDa (calculated).
N-terminal 6xHis-tag and TEV cleavage site, 25 extra AA (highlighted).

Recombinant antigen for research use or manufacturing only.

Introduction to the Molecule

During mRNA translation at ribosomes, specific amino-acyl-tRNA synthetases are required for the covalently attachment between tRNAs and different amino acids. Alanyl -tRNA synthetase (AARS, PL-12) is specific for the amino acid alanine. PL-12 is recognized by PL-12 autoantibodies which is present in a subset of patients with polymyositis and dermatomyositis.

Immunological Function

As an autoantigen, PL-12 binds with IgG-type human auto-antibodies.

Amino Acid Sequence

MSYYHHHHHDYDIPTTENLYFQGADSTLTASEIRQRFIDFFKRNEHTYVHSSATIPLDDPTLLF
ANAGMNQFKPIFLNTIDPSHPMAKLSRAANTQKCI RAGGKHNDLDDVGKDVYHHTFFEMLGSWSF
GDYFKELACKMALELLTQEFGIPIERLYVTYFGGDEAAGLEADLECKQIWQNLGLDDTKILPGNM
KDNFWEFGDTGPGPCSEIHYDRIGGRDAAHLVNQDDPNVLEIWNLVFIQYNREADGILKPLPKK
SIDTGMGLERLVSVLQNKMSNYDSDLFVYPYFEAIQKGTGARPYTGKVGAEADADGIDMAYRVLADH
ARTITVALADGGRPDNTGRGYVLRRLRRRAVRYAHEKLNASRGFFATLVDVVVQSLGDAFPELKK
DPDMVKDIINEEEVQFLKTLRGRRIIDRKIQSLGDSKTIPGDTAWLLYDTYGFPVDLTGLIAEE
KGLVVDMDGFEEERKLAQLKSQKGAGGEDLIMLDIYAIEELRARGLEVTDSPKYNHLDSSGS
YVFENTVATVMALRREKMFVEEVSTGQECGVVLDKTCFYAEQGGQIYDEGYLVKVVDDSSDKTEF
TVKNAQVRGGYVLHIGTIYGDLKVGQVWLFIDEPRRRPIMSNHTATHILNFALRSVLGEADQKG
SLVAPDRLRFDFATAKAMSTQQIKKAEIEANEMIEAAKAVYTQDCPLAAAKAIQGLRAVFDETYF
DPVRVVSIGVPVSELDDPSGPAGSLTSVEFCGGTHLRNSSHAGAFVIVTEEAIAKGIIRIVAVT
GAEAQKALRKAESLKKCLSVMEAKVKAQTAPNKDVQREIADLGEALATAVPIQWQKDELRETLKS
LKKVMDDLDRASKADVQKRVLEKTKQFIDSNPNQPLVILEMESGASAKALNEALKLFKMHSPTQS
AMLFTVDNEAGKITCLCQVPQNAANRGLKASEWVQQVSGLMGKGGKDVSAQATGKNVGCLQEA
LQLATSAQLRLGDKVN

Applications

Standard ELISA test, line/dot assay and microarray assay with positive/negative sera panels.





Formulation

Lyophilized at 1 mg/mL in storage buffer (20mM Tris, 300-500mM NaCl, 10% Glycerol, PH8.0).

Reconstitution

Add deionized water to prepare a working stock solution of approximately 1 mg/mL and let the lyophilized pellet dissolve completely.

Storage

Store lyophilized protein at -20°C . Aliquot reconstituted protein and store at -80°C . Avoid repeated freezing /thawing cycles.

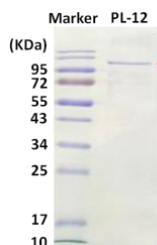
Quality Control Test

BCA to determine quantity of the protein.

SDS PAGE to determine purity of the protein.

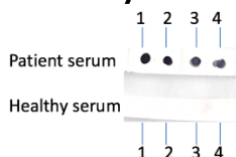
Immunodot analysis to determine functionality of protein.

SDS-PAGE Gel



Dot blot assay

Dot blot analysis of PL-12



Analysis of serum from healthy subjects and patients. Recombinant autoantigens were utilized in this dot-blot assay for validation

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