Aminoacyl-tRNA Synthetase

tRNA Synthetase, aaRS

Aminoacyl-tRNA synthetases (AARSs) are the enzymes that catalyze the aminoacylation reaction by covalently linking an amino acid to its cognate tRNA in the first step of protein translation. In mammals, AARSs usually exist in free form or in the form of a multi-tRNA synthetase complex (MSC), and the latter consists of eight AARSs and three non-enzymatic AARS-interacting multi-functional proteins (AIMP1/p43, AIMP2/p38, and AIMP3/p18).

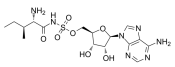
AARSs are responsible for the proper pairing of codons on mRNA with amino acids. AARSs are also involved in RNA splicing, transcriptional regulation, translation, and other aspects of cellular homeostasis. Study of these enzymes is of great interest to the researchers due to its pivotal role in the growth and survival of an organism. AARSs are one of the leading targets for developing novel anti-infective agents. Further, unfolding the interesting structural and functional aspects of these enzymes in the last few years has qualified them as a potential drug target against various diseases.

Aminoacyl-tRNA Synthetase Inhibitors

Aminoacyl tRNA synthetase-IN-1

Cat. No.: HY-108939

Aminoacyl tRNA synthetase-IN-1 is a **bacterial aminoacyl tRNA synthetase** (**aaRS**) inhibitor.

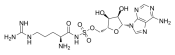


Purity: 99.63%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg

Arg-AMS

Cat. No.: HY-112862

Arg-AMS is a potent nanomolar inhibitor of **arginyl tRNA synthetase**, which displays tightly bound inhibitory characteristics for the A-domains in non-ribosomal peptide synthetases **(NRPS)** enzymes.

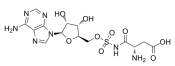


Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg

Asp-AMS

Cat. No.: HY-112860

Asp-AMS, an analogue of aspartyl-adenylate, is an **aspartyl-tRNA synthetase** inhibitor and also a strong competitive inhibitor of the **mitochondrial enzyme**.

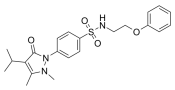


Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg

BC-LI-0186

Cat. No.: HY-136265

BC-LI-0186 is a potent and selective inhibitor of **Leucyl-tRNA synthetase (LRS; LeuRS)** and Ras-related GTP-binding protein D (RagD) interaction (IC_{50}=46.11 nM).

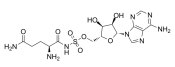


Purity: 98.85%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Gln-AMS

Cat. No.: HY-112861

Gln-AMS is an aminoacyl-tRNA synthetases **(AARS)** inhibitor, which binds the A-domain within the NRPS enzymes.

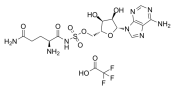


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Gln-AMS TFA

Cat. No.: HY-112861A

Gln-AMS (TFA) is a type Ia **aminoacyl-tRNA synthetase (AARS)** inhibitor. Gln-AMS inhibits **glutaminyl-tRNA synthetase (GlnRS)** with a K_i of 1.32 μM.

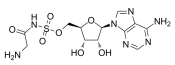


Purity: 98.73%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

GlyRS-IN-1

Cat. No.: HY-108940

GlyRS-IN-1 is a **glycyl-tRNA synthase** (**GlyRS**) inhibitor extracted from patent WO 2017066459 A1. GlyRS-IN-1 can also inhibit the growth of **bacteria**.

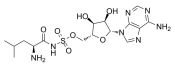


Purity: 98.14%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

Leu-AMS

Cat. No.: HY-108900

Leu-AMS (compound 6), a leucine analogue, is a potent inhibitor of **leucyl-tRNA synthetase** (**LRS**) with an IC_{50} of 22.34 nM, which inhibits the catalytic activity of LRS but did not affect the leucine-induced mTORC1 activation.

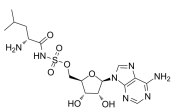


Purity: 99.14%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg

Leu-AMS R enantiomer

Cat. No.: HY-108900A

Leu-AMS R enantiomer is the R enatiomer of Leu-AMS. Leu-AMS is a potent inhibitor of leucyl-tRNA synthetase (LRS) and inhibits the growth of bacteria.

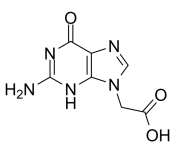


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

LysRs-IN-1

Cat. No.: HY-103280

LysRs-IN-1 is a Lysyl-tRNA synthetase (LysRs) inhibitor.



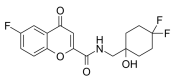
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Tel: 609-228-6898 Fax: 609-228-5909 Email: sales@MedChemExpress.com

LysRs-IN-2

Cat. No.: HY-126130

LysRs-IN-2 is a **lysyl-tRNA synthetase (KRS)** inhibitor with **IC_{50}**s of 0.015 μM and 0.13 μM for Plasmodium falciparum lysyl-tRNA synthetase (PfKRS) and Cryptosporidium parvum lysyl-tRNA synthetase (CpKRS), respectively.



Purity: 98.69%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg