**Leu-AMS**

**Cat. No.:** HY-108900  
**CAS No.:** 288591-93-5  
**Molecular Formula:** $\text{C}_{16}\text{H}_{25}\text{N}_{7}\text{O}_{7}\text{S}$  
**Molecular Weight:** 459.48  
**Target:** Aminoacyl-tRNA Synthetase; Bacterial  
**Pathway:** Metabolic Enzyme/Protease; Anti-infection  
**Storage:**  
- Powder: -20°C for 3 years, 4°C for 2 years  
- In solvent: -80°C for 6 months, -20°C for 1 month

**SOLVENT & SOLUBILITY**

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass 1 mg</th>
<th>Mass 5 mg</th>
<th>Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Vitro</td>
<td>DMSO: $\geq 49.17 \text{ mg/mL}$ (107.01 mM)</td>
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<tr>
<td></td>
<td><em>“$\geq$” means soluble, but saturation unknown.</em></td>
<td></td>
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<tr>
<td></td>
<td>1 mM</td>
<td>2.1764 mL</td>
<td>10.8819 mL</td>
<td>21.7637 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.4353 mL</td>
<td>2.1764 mL</td>
<td>4.3527 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.2176 mL</td>
<td>1.0882 mL</td>
<td>2.1764 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

**BIOLOGICAL ACTIVITY**

**Description**  
Leu-AMS (compound 6), a leucine analogue, is a potent inhibitor of leucyl-tRNA synthetase (LRS) with an $\text{IC}_{50}$ of 22.34 nM, which inhibits the catalytic activity of LRS but did not affect the leucine-induced mTORC1 activation. Leu-AMS shows cytotoxicity in cancer cells and normal cells, and inhibits the growth of bacteria$^{[1]}$.

**IC$_{50}$ & Target**  
IC$_{50}$: 22.34 nM (LRS)$^{[1]}$

**In Vitro**  
Leu-AMS is proved to be a potent inhibitor of Leucyl-tRNA Synthetase (LRS) with an IC$_{50}$ value of 22.34 nM. Leu-AMS is highly cytotoxic in both cancer cells and normal cells. Leu-AMS does not affect S6 kinase (S6K) phosphorylation at all. Leu-AMS inhibits the catalytic activity of LRS but does not affect the leucine-induced mTORC1 activation$^{[1]}$.

**REFERENCES**

Caution: Product has not been fully validated for medical applications. For research use only.

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