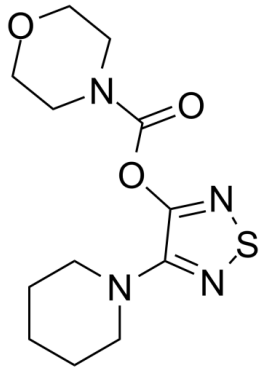
Data Sheet

Product Name:	Lalistat 1
Cat. No.:	CS-0066587
CAS No.:	501104-16-1
Molecular Formula:	$C_{12}H_{18}N_4O_3S$
Molecular Weight:	298.36
Target:	Bacterial
Pathway:	Anti-infection
Solubility:	DMSO : 20 mg/mL (67.03 mM; Need ultrasonic and warming)



BIOLOGICAL ACTIVITY:

Lalistat 1 is a potent, selective, and competitive inhibitor of **lysosomal acid lipase (LAL)** and against purified human LAL (phLAL) with an **IC_{50}** of 68 nM. Lalistat 1 is a inhibitor of **immunoglobulin A1 protease (IgA1P)** proteases for H. influenzae, has less effects on other serine hydrolases (trypsin or β-lactamase, etc.). Lalistat 1 can be used for the research of niemann-pick type C (NPC) disease[2]. IC50 & Target: IC50: 68 nM (human LAL)[1] **In Vitro:** Lalistat 1 (0-100 μM) shows activity against different non-typeable H. influenzae (NTHi) IgAP variants from clinical isolates in Elisa assay. It shows a dose-dependent inhibition of IgA1P B1 and B2, but at higher inhibitor concentrations, consistent with the higher expression levels of these variants. Nearly complete inhibition of IgA1P B1 and B2 is observed at 50 μM, with complete inhibition at 100 μM[1].

References:

[1]. Anton I Rosenbaum , et al. Thiadiazole carbamates: potent inhibitors of lysosomal acid lipase and potential Niemann-Pick type C disease therapeutics. J Med Chem . 2010 Jul 22;53(14):5281-9.

[2]. Livia Shehaj, et al. Small-Molecule Inhibitors of Haemophilus influenzae IgA1 Protease.ACS Infect Dis. 2019 Jul 12;5(7):1129-1138.

CAIndexNames:

4-Morpholinecarboxylic acid, 4-(1-piperidinyl)-1,2,5-thiadiazol-3-yl ester

SMILES:

O=C(N1CCOCC1)OC2=NSN=C2N3CCCCC3

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