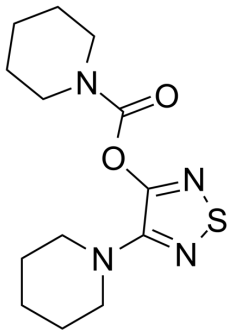
Lalistat 2

Cat. No.:	HY-128144
CAS No.:	1234569-09-5
Molecular Formula:	$C_{13}H_{20}N_4O_2S$
Molecular Weight:	296.39
Target:	Lipase

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (337.39 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3739 mL	16.8697 mL	33.7393 mL
	5 mM	0.6748 mL	3.3739 mL	6.7479 mL
	10 mM	0.3374 mL	1.6870 mL	3.3739 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.43 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.43 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.43 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lalistat 2 is an inhibitor of many lipases especially Lysosomal acid lipase (LAL, IC_{50} = 152 nM), which is a key enzyme that degrades neutral lipids at an acidic pH in lysosomes. Lalistat 2 is commonly used to investigate the cell-specific functions of LAL and LAL deficiency in vitro, as well as specifically measure LAL activity in human blood samples or cells [1][2][3].

IC_{50} & Target

IC50: 152 nM (LAL)[2]

In Vitro

Lalistat 2 (30 μM, 7 d) does not affect differentiation of mice adipocytes but reduces isoproterenol-stimulated lipolysis[1].
Lalistat 2 (30 μM, 7 d) inhibits neutral lipid hydrolase activity in mice adipocytes[1].

Lalistat 2 (0.1-100 μM, 20 h) inhibits neutral lipid hydrolases in bone marrow-derived macrophages (BMDM) in a dose-dependent manner[1].

Lalistat 2 (30 μM, 24 h) inhibits adipose triglyceride lipase and hormone-sensitive lipase in mouse and human COS-7 cells[1].

Lalistat 2 (30 μM, 20 h) decreases activities of LAL□ ATGL□ HSL□ MGL□ PNPLA6 and NCEH1 in mice bone marrow-derived macrophages[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Bradić I, et al. Off-target effects of the lysosomal acid lipase inhibitors Lalistat-1 and Lalistat-2 on neutral lipid hydrolases. Mol Metab. 2022□61□101519.

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

[3]. Lukacs Z, et al. Best practice in the measurement and interpretation of lysosomal acid lipase in dried blood spots using the inhibitor Lalistat 2. Clin Chim Acta. 2017;471:201-205.

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

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