L-Leucyl-L-Leucine methyl ester hydrochloride

Cat. No.: HY-129905

CAS No.: 6491-83-4

Molecular Formula: $C_{13}H_{27}ClN_2O_3$

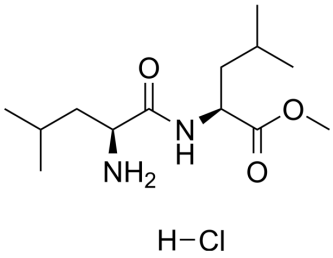
Molecular Weight: 294.82

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (847.98 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3919 mL	16.9595 mL	33.9190 mL
	5 mM	0.6784 mL	3.3919 mL	6.7838 mL
	10 mM	0.3392 mL	1.6960 mL	3.3919 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: ≥ 2.08 mg/mL (7.06 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.06 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.06 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

L-Leucyl-L-Leucine methyl ester (LLOMe) hydrochloride, a dipeptide condensation product of L-leucine methyl ester generated by human monocytes or polymorphonuclear leukocytes, selectively eliminates lymphocytes with cytotoxic potential. L-Leucyl-L-Leucine methyl ester hydrochloride also can induce endolysosomal pathway stress[1][2][3].

In Vitro

L-Leucyl-L-Leucine methyl ester (1 mM; 0.5-2 h) enhances LRRK2-mediated Rab10 and Rab12 phosphorylation in MEFs and A549 cells[3].

L-Leucyl-L-Leucine methyl ester (10-250 μM; 15 min) is converted to a CCl_3COOH-insoluble product by $CD4^-$ lymphocytes[2].

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

CUSTOMER VALIDATION

- PLoS Pathog. 2024 Feb 14;20(2):e1011981.
- Traffic. 2022 May;23(5):238-269.
- Int Immunol. 2021 Jul 23;dxab044.

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REFERENCES

[1]. Thiele DL, et, al. The immunosuppressive activity of L-leucyl-L-leucine methyl ester: selective ablation of cytotoxic lymphocytes and monocytes. J Immunol. 1986 Feb 1;136(3):1038-48.

[2]. Thiele DL, et, al. Mechanism of L-leucyl-L-leucine methyl ester-mediated killing of cytotoxic lymphocytes: dependence on a lysosomal thiol protease, dipeptidyl peptidase I, that is enriched in these cells. Proc Natl Acad Sci U S A. 1990 Jan;87(1):83-7.

[3]. Kalogeropulou AF, et, al. Endogenous Rab29 does not impact basal or stimulated LRRK2 pathway activity. Biochem J. 2020 Nov 27;477(22):4397-4423.

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