L-Leucyl-L-Leucine methyl ester hydrobromide

Cat. No.: HY-129905A

CAS No.: 16689-14-8

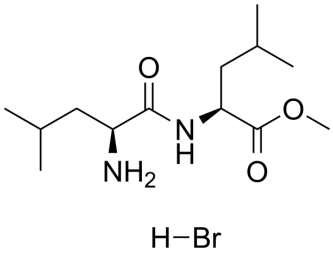
Molecular Formula: $C_{13}H_{27}BrN_2O_3$

Molecular Weight: 339.27

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 : 125 mg/mL (368.44 mM; Need ultrasonic)
H_2O : 100 mg/mL (294.75 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9475 mL	14.7375 mL	29.4750 mL
5 mM	0.5895 mL	2.9475 mL	5.8950 mL
10 mM	0.2948 mL	1.4738 mL	2.9475 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (294.75 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (6.13 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.13 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.13 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

L-Leucyl-L-Leucine methyl ester (LLOMe) hydrobromide, 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 hydrobromide 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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