Data Sheet (Cat.No.T7739)

TargetMol

L-Leucyl-L-Leucine methyl ester hydrochloride

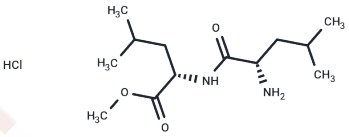
Chemical Properties

CAS No. : 6491-83-4

Formula: C13H27ClN2O3

Molecular Weight: 294.81

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.



Biological Description

Description	L-Leucyl-L-Leucine methyl ester hydrochloride (Leu-Leu-ome hydrochloride) is a dipeptide condensation product of L-leucine methyl ester produced by human monocytes or polymorphonuclear leukocytes. L-Leucyl-L-Leucine methyl ester hydrochloride selectively eliminates lymphocytes with cytotoxic potential and also induces lysosomal stress.
Targets(IC50)	Endogenous Metabolite
In vitro	**METHODS**: hSMCs cells were treated with GW 7647 (100-600 nM) for 24-96 h. DNA content was determined. **RESULTS**: GW 7647 treatment inhibited proliferation in a dose-dependent manner. [1] **METHODS**: Gastric sinus mucosa was treated with GW 7647 (50 nM) for 10 min, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: In gastric sinus mucosa, GW 7647 stimulated PI3K phosphorylation followed by Akt (Ser473) phosphorylation, which induced NOS1 phosphorylation. [2]
In vivo	**METHODS**: To investigate the improvement of AD model and the mechanism, GW7647 (2.5 mg/kg) was administered to APP/PS1 transgenic mice daily for three months. **RESULTS**: GW 7647 reduced the Aβ burden and ameliorated cognitive deficits in APP/PS1 mice, and activation of PPAR-α by GW 7647 ameliorated the disruption of iron homeostasis and attenuated neuronal inflammation and lipid peroxidation in the brains of APP/PS1 mice, which may be related to the up-regulation of GPx4 transcripts mediated by the interaction between GPx4 non-coding regions and PPAR-α. [3] **METHODS**: To investigate the effects on hepatocarcinogenesis in mice, GW 7647 (0.01% w/w) was administered dietary to wild-type, Para-null, or PPARA-humanized mice daily for 1, 5, and 26 weeks or chronically. **RESULTS**: In wild-type mice, GW 7647 caused high rates of hepatic expression of known PPARα target genes, hepatomegaly, hepatic MYC expression, hepatocytotoxicity, and hepatocellular carcinoma. In contrast, these effects were largely absent in Ppara-null mice and attenuated in PPARA-humanized mice, although hepatocarcinogenesis was observed in both genotypes. [4]

Solubility Information

Solubility	H2O: 250 mg/mL (848 mM),Sonication is recommended. DMSO: 250 mg/mL (848 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	5% DMSO+95% Saline: 1.45 mg/mL (4.92 mM),Solution. 10% DMSO+90% Saline: 2.75 mg/mL (9.33 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.392 mL	16.9601 mL	33.9202 mL
5 mM	0.6784 mL	3.392 mL	6.784 mL
10 mM	0.3392 mL	1.696 mL	3.392 mL
50 mM	0.0678 mL	0.3392 mL	0.6784 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Repnik U, et al. L-leucyl-L-leucine methyl ester does not release cysteine cathepsins to the cytosol but inactivates them in transiently permeabilized lysosomes. J Cell Sci. 2017 Sep 15;130(18):3124-3140.
Koh HX, et al. The lysosomotropic drug LeuLeu-OMe induces lysosome disruption and autophagy-independent cell death in Trypanosoma brucei. Microb Cell. 2015 Jul 30;2(8):288-298.