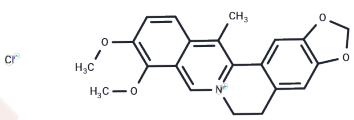
Data Sheet (Cat.No.TN1189)

TargetMol

13-Methylberberine chloride

Chemical Properties



CAS No. : 54260-72-9

Formula: C21H20ClNO4

Molecular Weight: 385.84

Storage: Keep away from direct sunlight
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	13-Methylberberine chloride shows anti-adipogenic effect on 3T3-L1 adipocytes, it has potential as an anti-obesity drug
Targets(IC50)	Others,Interleukin
In vitro	We screened 11 protoberberine and 2 benzophenanthridine alkaloids for their anti-adipogenic effects on 3T3-L1 adipocytes and found that 13-Methylberberine exhibited the most potent activity. 13-Methylberberine down-regulated the expression of the main adipocyte differentiation transcription factors, peroxisome proliferator-activated receptor gamma (PPARγ) and CCAAT enhancer binding protein alpha (C/EBPα±), as well as their target genes. PPARγ, C/EBPα±, and sterol regulatory element binding protein 1 (SREBP-1) protein levels were reduced, and this lipid-reducing effect was attenuated by an AMP-activated protein kinase (AMPK) inhibitor, indicating that the effect of this compound requires the AMPK signaling pathway. Decreased Akt phosphorylation suggested reduced de novo lipid synthesis. C-13 methyl substitution of berberine increased its accumulation in treated cells, suggesting that 13-Methylberberine has improved absorption and higher accumulation compared to berberine.

Solubility Information

Solubility	DMSO: 10 mg/mL (25.92 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.59 mM),Sonication is recommended. *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	2.5917 mL	12.9587 mL	25.9175 mL
5 mM	0.5183 mL	2.5917 mL	5.1835 mL
10 mM	0.2592 mL	1.2959 mL	2.5917 mL
50 mM	0.0518 mL	0.2592 mL	0.5183 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

13-Methylberberine, a berberine analogue with stronger anti-adipogenic effects on mouse 3T3-L1 cells.Sci Rep. 2016 Dec 5;6:38129.
Liang X, Cao Y, Duan Z, et al.Discovery of New Small Molecule Inhibitors of the BPTF Bromodomain.Bioorganic Chemistry.2023: 106453.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481