Data Sheet (Cat.No.T60741)

TargetMol

Dihydrocapsiate

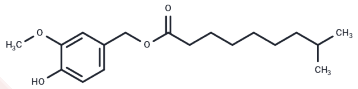
Chemical Properties

CAS No. : 205687-03-2

Formula: C18H28O4

Molecular Weight: 308.41

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	Dihydrocapsiate is a compound of capsinoid family that can be used in metabolism diseas research. Dihydrocapsiate is an orally active agonist of TRPV1 [1].
Targets(IC50)	Others,TRP/TRPV Channel
In vitro	Dihydrocapsiate treatment at concentrations of 10, 25, and 50 μM for 48 hours does not impact the viability of human preadipocytes, indicating its non-toxic nature at these levels [1]. At lower concentrations of 10 and 20 μM, but over a longer period of 8 days, dihydrocapsiate significantly reduces the expression of various adipogenic (like SREBP1, FABP4, PLIN1, ADIPOQ, and LEPTIN) and inflammatory markers (MCP1 and TNFα) in mature adipocytes. Conversely, it increases the expression of PGC1α, crucial for mitochondrial biogenesis, and TBX1, a marker of "brite" cells, highlighting its potential role in adipocyte metabolism and inflammation modulation [1]. Interestingly, in RAW 264.7 cells, dihydrocapsiate concentrations ranging from 25 to 200 μM effectively inhibit the release of nitric oxide (NO) and the generation of intracellular reactive oxygen species (ROS), providing evidence of its anti-inflammatory and antioxidative properties [1].
In vivo	Dihydrocapsiate administered orally at doses of 2 and 10 mg/kg effectively improves morphometric parameters and insulin levels in HFD-fed mice [1]. It counteracts the enlargement of adipocytes and upregulates energy expenditure-related genes in white adipose tissue (WAT), mitigates hepatic steatosis, and inhibits fat accumulation prompted by a high-fat diet (HFD). Furthermore, it elevates the expression of mitochondrial biogenesis-related genes in brown adipose tissue (BAT), ameliorates intestinal morphology, and modulates the availability of short-chain fatty acids (SCFAs), showcasing its broad pharmacological potential in metabolic regulation.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2424 mL	16.2122 mL	32.4244 mL
5 mM	0.6485 mL	3.2424 mL	6.4849 mL
10 mM	0.3242 mL	1.6212 mL	3.2424 mL
50 mM	0.0648 mL	0.3242 mL	0.6485 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.