Melinamide

Cat. No.: HY-101722

CAS No.: 14417-88-0

Molecular Formula: $C_{26}H_{41}NO$

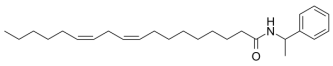
Molecular Weight: 383.61

Target: Others

Pathway: Others

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 200 mg/mL (521.36 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6068 mL	13.0341 mL	26.0681 mL
5 mM	0.5214 mL	2.6068 mL	5.2136 mL
10 mM	0.2607 mL	1.3034 mL	2.6068 mL

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

BIOLOGICAL ACTIVITY

Description

Melinamide, an amide derivative of an unsaturated long-chain fatty acid, is an inhibitor of cholesterol absorption with an IC_{50} of 20.9 μM.

IC_{50} & Target

IC50: 20.9 μM (cholesterol)[1]

In Vitro

DL-Melinamide inhibits acyl CoA:cholesterol acyltransferase activity (ACAT) in the mucosal microsomes, with 50% inhibition occurring at approximately 0.5 μM. Kinetic studies indicate that DL-Melinamide is an uncompetitive inhibitor of acyl CoA:cholesterol acyltransferase. D-Melinamide is found to be a more effective inhibitor than L-Melinamide[2].

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

In Vivo

Melinamide is a new hypocholesterolaemic drug. Melinamide causes a substantial decrease of the enhanced intestinal ACAT activity in diabetic rats, but does not affect intestinal cholesterol esterase activity. Furthermore, marked improvement of hypercholesterolaemia in cholesterol-fed diabetic rats occurrs concomitantly with the drug treatment[3].

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PROTOCOL

Animal Administration [3]

Rats: 10 diabetic rats are divided into two groups: a cholesterol-fed diabetic group and a melinamide-treated cholesterol-fed diabetic group. Five control rats are injected with citrate buffer only. The rats are fed each diet for 3 weeks after injection. The chol-fed DM group receives a diet (20 g/day) containing 1% cholesterol, 0.5% cholic acid and 5% lard. The melinamide-treated group receives the same diet but supplemented with 0.1% melinamide. Control rats are fed a standard chow (20 g/day). Following a 24-h fast the animals are killed. Blood is collected by aortic puncture and samples of small intestine are retained[3].

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

REFERENCES

[1]. Kusunoki J, et al. Effect of F-1394, a potent and selective inhibitor of acyl-CoA:cholesterol acyltransferase (ACAT), on esterification of cholesterol and basolateral secretion of cholesteryl ester in Caco-2 cells Nihon Yakurigaku Zasshi. 1997 Dec;110(6):357-65.

[2]. Natori K, et al. Mechanism of the inhibition of cholesterol absorption by DL-melinamide: inhibition of cholesterol esterification. Jpn J Pharmacol. 1986 Dec;42(4):517-23.

[3]. Matsubara K, et al. Cholesterol-lowering effect of N-(alpha-methylbenzyl)linoleamide (melinamide) in cholesterol-fed diabetic rats. Atherosclerosis. 1988 Aug;72(2-3):199-204.

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