

Product Data Sheet

Product Name: Melinamide

Cat. No.: GC19243

Chemical Properties

Cas. No. 14417-88-0

SMILES CCCCC/C=C\C/C=C\CCCCCCCC(NC(C1=CC=CC=C1)C)=O

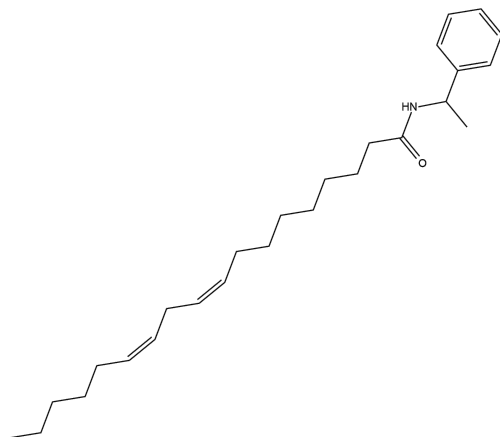
Formula $C_{26}H_{41}NO$ M.Wt 383.61

Solubility DMSO : 200 mg/mL (521.36 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Animal experiment: 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].

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.

Background

Melinamide, an amide derivative of an unsaturated long-chain fatty acid, is an inhibitor of cholesterol absorption with an IC₅₀ of 20.9 μ M.

DL-Melinamide inhibits acyl CoA:cholesterol acyltransferase activity (ACAT) in the mucosal microsomes, with 50% inhibition occurring at approximately 0.5 μ M. 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].

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 occurs concomitantly with the drug treatment[3].

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