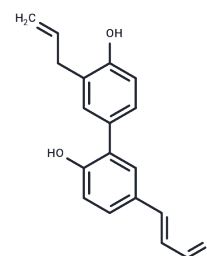


Magnaldehyde B

Chemical Properties

CAS No. :	92829-72-6
Formula:	C ₁₈ H ₁₆ O ₃
Molecular Weight:	280.323
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	Magnaldehyde B is a natural lipase inhibitor (IC ₅₀ = 96.96 μM). Magnaldehyde B can inhibit the proliferation of tumor cells, and might be an anti-tumoric agent.
In vitro	Lipase is the key enzyme for catalyzing triglyceride hydrolysis in vivo, and lipase inhibitors have been used in the management of obesity. METHODS AND RESULTS: We present the first report on the use of lipase-adsorbed halloysite nanotubes as an efficient medium for the selective enrichment of lipase inhibitors from natural products. A simple and rapid approach was proposed to fabricate lipase-adsorbed nanotubes through electrostatic interaction. Results showed that more than 85% lipase was adsorbed into nanotubes in 90 min, and approximately 80% of the catalytic activity was maintained compared with free lipase. The specificity and reproducibility of the proposed approach were validated by screening a known lipase inhibitor (i.e., orlistat) from a mixture that contains active and inactive compounds. Moreover, we applied this approach with high performance liquid chromatography-mass spectrometry technique to screen lipase inhibitors from the Magnoliae cortex extract, a medicinal plant used for treating obesity. Two novel biphenyl-type natural lipase inhibitors magnotriol A and Magnaldehyde B were identified, and their IC ₅₀ values were determined as 213.03 and 96.96 μM, respectively. CONCLUSIONS: The ligand-enzyme interactions of Magnaldehyde B were further investigated by molecular docking. Our findings proved that enzyme-adsorbed nanotube could be used as a feasible and selective affinity medium for the rapid screening of enzyme inhibitors from complex mixtures.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5674 mL	17.8368 mL	35.6735 mL
5 mM	0.7135 mL	3.5674 mL	7.1347 mL
10 mM	0.3567 mL	1.7837 mL	3.5674 mL
50 mM	0.0713 mL	0.3567 mL	0.7135 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

Fabrication of enzyme-immobilized halloysite nanotubes for affinity enrichment of lipase inhibitors from complex mixtures. J Chromatogr A. 2015 May 1;1392:20-7.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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