

5-Heneicosylresorcinol

Chemical Properties

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|-------------------|--|
| CAS No.: | 70110-59-7 |
| Formula: | C ₂₇ H ₄₈ O ₂ |
| Molecular Weight: | 404.66 |
| Appearance: | N/A |
| Storage: | 0-4°C for short term (days to weeks), or -20°C for long term (months). |

Biological Description

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| Description | 5-Heneicosylresorcinol shows inhibitory effects on the release of β -hexosaminidase from RBL-2H3 cells, it also prevents triglyceride accumulation in 3T3-L1 cells. 5-Heneicosylresorcinol has nematocidal activity against nematodes <i>Panagrellus redivivus</i> , <i>Caenorhabditis elegans</i> and <i>Bursaphelenchus xylophilus</i> , with ED50 values of 80, 30, and 180 μ g/mL, respectively. |
| Targets(IC ₅₀) | Antifection: None NADPH-oxidase: None |
| In vitro | Alkylresorcinols are phenolic lipids present at levels of 0.03-0.15% in wheat and rye grains and almost 10 times higher in respective bran products. Despite numerous studies on the influence of dietary fibers on the regulation of energy metabolism, this issue still remains controversial. METHODS AND RESULTS: The objective of our current studies was to investigate whether 5-n-alk(en)ylresorcinols, natural phenolic components of high fiber human diets, may be considered as natural regulators of excessive fat accumulation. Our studies revealed that 5-n-alk(en)ylresorcinols isolated from wheat and rye bran inhibit glycerol-3-phosphate dehydrogenase, the key enzyme in triglyceride synthesis in adipocytes, specifically and effectively. Further in vitro studies showed that these compounds also prevent triglyceride accumulation in 3T3-L1 cells. CONCLUSIONS: The most effective compound in both systems was 5-n-heneicosylresorcinol(5-Heneicosylresorcinol). The results indicate that the potential to prevent triglyceride accumulation increases with the hydrophobicity of the phenolic inhibitor. |

Solubility Information

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| Solubility | < 1 mg/ml refers to the product slightly soluble or insoluble |
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Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|----------|-----------|-----------|
| 1 mM | 2.471 mL | 12.356 mL | 24.712 mL |
| 5 mM | 0.494 mL | 2.471 mL | 4.942 mL |
| 10 mM | 0.247 mL | 1.236 mL | 2.471 mL |
| 50 mM | 0.049 mL | 0.247 mL | 0.494 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Inhibitory effect of natural phenolic lipids upon NAD-dependent dehydrogenases and on triglyceride accumulation in 3T3-L1 cells in culture. J Agric Food Chem. 2004 Jan 28;52(2):246-50.
2. Nematicidal metabolites from *Gliocladium roseum* YMF1.0013 Applied Biochemistry & Microbiology, 2016, 52(3):324-330.

Inhibitors · Natural Compounds · Compound Libraries

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Tel:781-999-4286

E-mail:info@targetmol.com

Address:36 Washington Street,Wellesley Hills,MA 02481