

Product Data Sheet

Product Name: Malabaricone B

Cat. No.: GC46031

Chemical Properties

Cas. No. 63335-24-0

SMILES OC1=C(C(CCCCCCCCC2=CC=C(O)C=C2)=O)C(O)=CC=C1

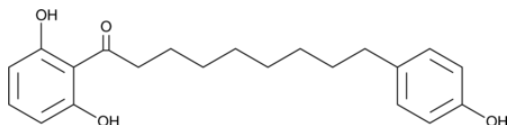
Formula C₂₁H₂₆O₄ M.Wt 342.4

Solubility DMF: 25 mg/ml, DMSO: 20 mg/ml, Ethanol: 10 mg/ml
 Storage Store at -20°C

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

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

Structure



Background

Malabaricone B is a diarylnonanoid that has been found in *Myristica* and has diverse biological activities, including enzyme inhibitory, antimicrobial, anticancer, and antioxidant properties.^{1,2,3,4,5} It is an inhibitor of sphingomyelin synthase 1 and -2 (IC₅₀s = 3.5 and 2.5 μM, respectively, in fibroblast cell lysates).¹ It is active against the bacteria *S. aureus*, *B. subtilis*, and *S. durans* (MIC = 1 μg/ml for all) and three strains of the fungus *C. albicans* (MICs = 4-16 μg/ml).² It is cytotoxic to A549, A375, Jurkat, A431, U937, and MCF-7 cells (IC₅₀s = 8.1, 26.7, 27.4, 9.5, 27.5, and 9.3 μM, respectively) but not non-cancerous INT407, HEK293, or WI-38 cells.³ It increases the levels of intracellular reactive oxygen species (ROS) and induces apoptosis in A549 cells. It reduces the formation of thiobarbituric acid reactive substrates (TBARS) by 28.2% in rat liver mitochondria when used at a concentration of 2 μg/ml but scavenges only 5% of 2,2-diphenyl-picrylhydrazyl radicals at 7 μg/ml.⁴ Malabaricone B (10, 15, and 20 mg/kg) reduces stomach ulceration in a mouse model of indomethacin-induced gastric ulcer.⁵

[1. Othman, M.A., Yuyama, K., Murai, Y., et al. Malabaricone C as natural sphingomyelin synthase

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

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inhibitor against diet-induced obesity and its lipid metabolism in mice. *Med. Chem. Lett.* 10(8), 1154-1158 (2019).|2. Orabi, K.Y., Mossa, J.S., and El-Feraly, F.S. Isolation and characterization of two antimicrobial agents from mace (*Myristica fragrans*). *J. Nat. Prod.* 54(3), 856-859 (1991).|3. Tyagi, M., Maity, B., Saha, B., et al. Spice-derived phenolic, malabaricone B induces mitochondrial damage in lung cancer cells via a p53-independent pathway. *Food Funct.* 9(11), 5715-5727 (2018).|4. Patro, B.S., Bauri, A.K., Mishra, S., et al. Antioxidant activity of *Myristica malabarica* extracts and their constituents. *J. Agric. Food Chem.* 53(17), 6912-6918 (2005).|5. Banerjee, D., Bauri, A.K., Guha, R.K., et al. Healing properties of malabaricone B and malabaricone C, against indomethacin-induced gastric ulceration and mechanism of action. *Eur. J. Pharm.* 578(2-3), 300-312 (2008).

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