

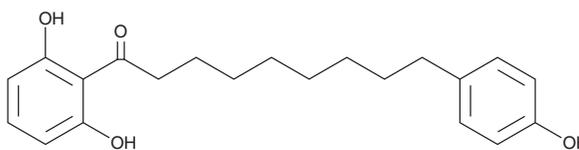
# PRODUCT INFORMATION



## Malabaricone B

Item No. 29911

**CAS Registry No.:** 63335-24-0  
**Formal Name:** 1-(2,6-dihydroxyphenyl)-9-(4-hydroxyphenyl)-1-nonanone  
**Synonyms:** NSC 287967, NSC 630196  
**MF:** C<sub>21</sub>H<sub>26</sub>O<sub>4</sub>  
**FW:** 342.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 223, 270 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years  
**Item Origin:** Plant/*Myristica malabarica*



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Malabaricone B is supplied as a crystalline solid. A stock solution may be made by dissolving the malabaricone B in the solvent of choice, which should be purged with an inert gas. Malabaricone B is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of malabaricone B in these solvents is approximately 10, 20, 25 mg/ml, respectively.

### Description

Malabaricone B is a diarylnonanoid that has been found in *Myristica* and has diverse biological activities, including enzyme inhibitory, antimicrobial, anticancer, and antioxidant properties.<sup>1-5</sup> It is an inhibitor of sphingomyelin synthase 1 and -2 (IC<sub>50</sub>s = 3.5 and 2.5 μM, respectively, in fibroblast cell lysates).<sup>1</sup> 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).<sup>2</sup> It is cytotoxic to A549, A375, Jurkat, A431, U937, and MCF-7 cells (IC<sub>50</sub>s = 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.<sup>3</sup> 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 (DPPH; Item No. 14805) radicals at 7 μg/ml.<sup>4</sup> Malabaricone B (10, 15, and 20 mg/kg) reduces stomach ulceration in a mouse model of indomethacin-induced gastric ulcer.<sup>5</sup>

### References

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

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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