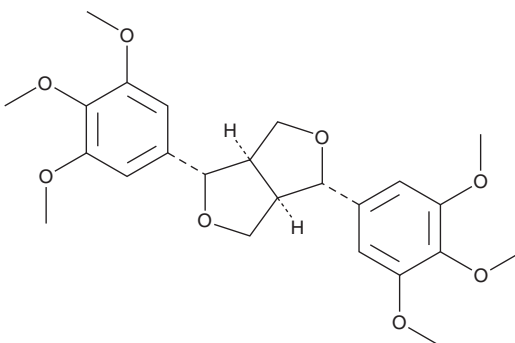


PRODUCT INFORMATION

Lirioresinol B dimethyl ether

Item No. 44937

CAS Registry No.: 13060-14-5
Formal Name: (1S,3aR,4S,6aR)-tetrahydro-1,4-bis(3,4,5-trimethoxyphenyl)-1H,3H-furo[3,4-c]furan
Synonyms: LBDE, (+)-Yangambin
MF: C₂₄H₃₀O₈
FW: 446.5
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Plant/*Polygala japonica* Houtt.



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

Laboratory Procedures

Lirioresinol B dimethyl ether is supplied as a solid. A stock solution may be made by dissolving the lirioresinol B dimethyl ether in the solvent of choice, which should be purged with an inert gas. Lirioresinol B dimethyl ether is slightly soluble (0.1-1 mg/ml) in acetonitrile and DMSO.

Description

Lirioresinol B dimethyl ether is a lignan originally isolated from *L. tulipifera* that has diverse biological activities.¹⁻⁴ It scavenges DPPH (Item No. 14805) radicals in a cell-free assay (IC₅₀ = 110.9 μM) and reduces the levels of NF-κB and COX-2 in HepG2 hepatocellular carcinoma cells when used at a concentration of 40 μM.² Lirioresinol B dimethyl ether (50 mg/kg per day) also reduces intratumoral levels of NF-κB and COX-2 in a mouse model of hepatocellular carcinoma induced by carbon tetrachloride (CCl₄) and diethylnitrosamine (DEN). It reduces liver damage and improves hepatic function in mice in the same model. Lirioresinol B dimethyl ether (40 and 80 μM) reduces the production of parathyroid hormone-related protein (PTHrP) in MDA-MB-231 breast cancer cells and inhibits RANKL-induced differentiation of bone marrow-derived macrophages (BMDMs; IC₅₀ = 8.88 μM).³ Lirioresinol B dimethyl ether is also active against *L. amazonensis* and *L. braziliensis* intracellular amastigotes (IC₅₀s = 43.9 and 76 μM, respectively).⁴

References

1. Dickey, E.E. Liriodendrin, a new lignan diglucoside from the inner bark of yellow poplar (*Liriodendron tulipifera* L.). *J. Org. Chem.* **23**(2), 179-184 (1958).
2. Shehzad, A., Rehmat, S., Ul-Islam, S., et al. Lirioresinol B dimethyl ether inhibits NF-κB and COX-2 and activates IκBα expression in CCl₄-induced hepatic fibrosis. *BMC Complement Med. Ther.* **20**(1), 49 (2020).
3. Jun, A.Y., Kim, H.-J., Park, K.-K., et al. Tetrahydrofurofuran-type lignans inhibit breast cancer-mediated bone destruction by blocking the vicious cycle between cancer cells, osteoblasts and osteoclasts. *Invest. New Drugs* **32**(1), 1-13 (2014).
4. Rebouças-Silva, J., Santos, G.F., Filho, J.M.B., et al. In vitro leishmanicidal effect of Yangambin and Epi-yangambin lignans isolated from *Ocotea fasciculata* (Nees) Mez. *Front Cell. Infect. Microbiol.* **12**, 1045732 (2022).

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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