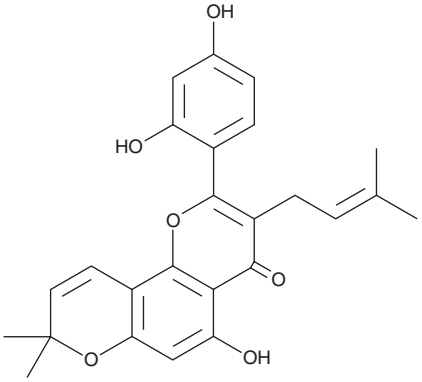
PRODUCT INFORMATION

Morusin

Item No. 28857

CAS Registry No.:	62596-29-6
Formal Name:	2-(2,4-dihydroxyphenyl)-5-hydroxy-8,8-dimethyl-3-(3-methyl-2-buten-1-yl)-4H,8H-benzo[1,2-b:3,4-b′]dipyran-4-one
Synonyms:	Mulberrochromene, NSC 649220
MF:	$C_{25}H_{24}O_6$
FW:	420.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 271 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Cortex mori*



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

Laboratory Procedures

Morusin is supplied as a solid. A stock solution may be made by dissolving the morusin in the solvent of choice, which should be purged with an inert gas. Morusin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of morusin in these solvents is approximately 15, 10, and 20 mg/ml, respectively.

Morusin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, morusin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Morusin has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Morusin is a prenylated flavonoid that has been found in *M. alba* and has diverse biological activities, including enzyme inhibitory, anti-inflammatory, and antiproliferative properties.[1,2,3,4] It inhibits the UDP-glucuronosyltransferase (UGT) isoforms UGT1A6, UGT1A7, and UGT1A8 (IC_{50}s = 4.23, 0.98, and 3 µM, respectively) and the cytochrome P450 (CYP) isoforms CYP3A4, CYP1A2, CYP2C9, and CYP2E1 (IC_{50}s = 2.13, 1.27, 3.18, and 9.28 µM, respectively).[1] Morusin (4 µM) inhibits histamine and leukotriene C_4 (LTC_4) production induced by A23187 (Item No. 11016) and phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) in mouse MC/9 mast cells.[2] It also inhibits the growth of MCF-7, MDA-MB-231, and MDA-MB-453 breast cancer cells (IC_{50}s = 13.53, 10.84, and 11.99 µM, respectively).[3] Morusin (12.5 mg/kg per day) decreases colonic tissue damage, TGF-β1 levels, and matrix metalloproteinase-2 (MMP-2) and MMP-9 activity in a rat model of TNBS-induced ulcerative colitis.[4]

References

1. Shi, X., Yang, S., Zhang, G., *et al. Xenobiotica* **46(5),** 467-476 (2016).
2. Jin, S.E., Ha, H., Shin, H.K., *et al. Molecules* **24(2),** E265 (2019).
3. Kang, S., Kim, E.O., Kim, S.H., *et al. Oncol. Lett.* **13(6),** 4558-4562 (2017).
4. Vochyánová, Z., Pokorná, M., Rotrekl, D., *et al. PLoS One* **12(8),** e0182464 (2017).

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