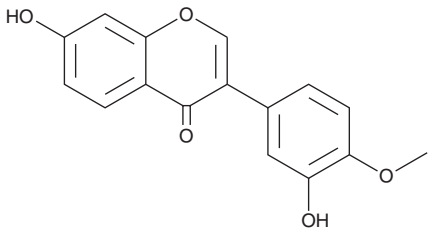
PRODUCT INFORMATION

Calycosin

Item No. 25091

CAS Registry No.:	20575-57-9
Formal Name:	7-hydroxy-3-(3-hydroxy-4-methoxyphenyl)-4H-1-benzopyran-4-one
MF:	$C_{16}H_{12}O_5$
FW:	284.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 219, 249, 291 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Calycosin is supplied as a crystalline solid. A stock solution may be made by dissolving the calycosin in the solvent of choice. Calycosin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of calycosin in these solvents is approximately 25 and 30 mg/ml, respectively.

Description

Calycosin is an isoflavone and phytoestrogen with diverse biological activities.[1-6] It is an estrogen receptor (ER) partial agonist that inhibits 17β-estradiol binding to ERα and ERβ (IC_{50}s = 83.14 and 40.38 µM, respectively).[1] Calycosin induces tube formation by human umbilical vein endothelial cells (HUVECs) in a Matrigel™ assay and angiogenesis in zebrafish *via* activation of ERs and ERK1/2. It has antiplasmodial and antiprotozoal activities, reducing the growth of the poW and Dd2 strains of *P. falciparum* (IC_{50}s = 4.2 and 9.8 µg/ml, respectively) and exhibiting selective toxicity for *T. brucei brucei* over Vero cells (IC_{50}s = 12.7 and 159 µM, respectively).[2,3] Calycosin scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) free radicals in a cell-free assay and inhibits xanthine/xanthine oxidase-induced toxicity in PC12 cells (EC_{50} = 50 ng/ml).[4] *In vivo*, calycosin (12.5 and 25 mg/kg) reduces alanine aminotransferase (ALT) and aspartate aminotransferase (AST) activity, triglyceride accumulation, and hepatic fibrosis in a mouse model of non-alcoholic steatohepatitis (NASH).[5] It also decreases infarct volume and brain edema in a rat model of focal cerebral ischemia and reperfusion injury.[6]

References

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3. Salem, M.M. and Werbovetz, K.A. *J. Nat. Prod.* **69(1)**, 43-49 (2006).
4. Yu, D.-H., Bao, Y.-M., Wei, C.-L., *et al. Biomed. Environ. Sci.* **18(5)**, 297-301 (2005).
5. Duan, X., Meng, Q., Wang, C., *et al. Phytomedicine* **25**, 83-92 (2017).
6. Wang, Y., Ren, Q., Zhang, X., *et al. Cell Physiol. Biochem.* **45(2)**, 537-546 (2018).

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