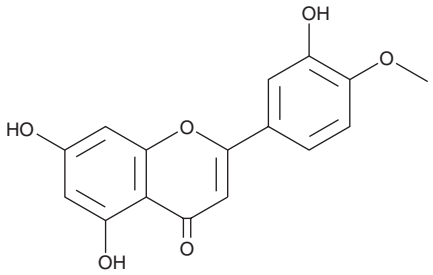
PRODUCT INFORMATION

Diosmetin

Item No. 18649

CAS Registry No.:	520-34-3
Formal Name:	5,7-dihydroxy-2-(3-hydroxy-4-methoxyphenyl)-4H-1-benzopyran-4-one
Synonyms:	Diosmetol, Luteolin 4'-methyl ether
MF:	$C_{16}H_{12}O_6$
FW:	300.3
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
UV/Vis.:	λ_{max}: 252, 268, 343 nm



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

Laboratory Procedures

Diosmetin is supplied as a crystalline solid. A stock solution may be made by dissolving the diosmetin in the solvent of choice, which should be purged with an inert gas. Diosmetin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of diosmetin in ethanol is approximately 2 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Diosmetin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, diosmetin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Diosmetin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Diosmetin is a flavonoid that has been found in citrus fruits and has diverse biological activities.[1-4] It inhibits the cytochrome P450 (CYP) isoforms CYP1A1 and CYP1B1 (K_is = 89 and 16 nM, respectively).[1] Diosmetin prevents increases in erythrocyte reactive oxygen species (ROS) and malondialdehyde (MDA) levels induced by AAPH (Item No. 82235) in a concentration-dependent manner.[2] It reduces tumor growth and tumor blood vessel density in a B16/F10 murine melanoma model when administered at a dose of 1 mg/kg twice per day.[3] Diosmetin (0.5 mg/kg) inhibits lung goblet cell hyperplasia and collagen deposition and decreases the number of eosinophils and neutrophils in bronchoalveolar lavage fluid (BALF) in a mouse model of chronic asthma induced by ovalbumin.[4]

References

1. Androutsopoulos, V.P., Papakyriakou, A., Vourloumis, D., *et al.* Comparative CYP1A1 and CYP1B1 substrate and inhibitor profile of dietary flavonoids. *Bioorg. Med. Chem.* **19(9)**, 2842-2849 (2011).
2. Liao, W., Ning, Z., Chen, L., *et al.* Intracellular antioxidant detoxifying effects of diosmetin on 2,2-azobis(2-amidinopropane) dihydrochloride (AAPH)-induced oxidative stress through inhibition of reactive oxygen species generation. *J. Agric. Food Chem.* **62(34)**, 8648-8654 (2014).
3. Choi, J., Lee, D.H., Park, S.Y., *et al.* Diosmetin inhibits tumor development and block tumor angiogenesis in skin cancer. *Biomed. Pharmacother.* 117, 109091 (2019).
4. Ge, A., Liu, Y., Zeng, X., *et al.* Effect of diosmetin on airway remodeling in a murine model of chronic asthma. *Acta Biochim. Biophys. Sin. (Shanghai)* 47(8), 604-611 (2015).

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