

PRODUCT INFORMATION

5-O-Demethylnobiletin

Item No. 35230

CAS Registry No.: 2174-59-6

Formal Name: 2-(3,4-dimethoxyphenyl)-5-hydroxy-6,7,8-trimethoxy-4H-1-benzopyran-4-one

Synonyms: 5-hydroxy Nob, NSC 618927

MF: C₂₀H₂₀O₈

FW: 388.4

Purity: ≥98%

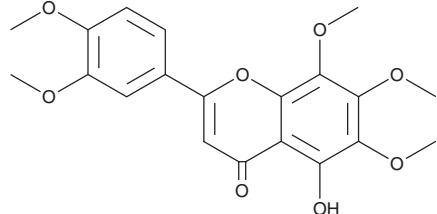
UV/Vis.: λ_{max}: 253, 284, 339 nm

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

Item Origin: Plant/*Citrus reticulata* Blanco



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

Laboratory Procedures

5-O-Demethylnobiletin is supplied as a solid. A stock solution may be made by dissolving the 5-O-demethylnobiletin in the solvent of choice, which should be purged with an inert gas. 5-O-Demethylnobiletin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 5-O-demethylnobiletin in these solvents is approximately 5 and 10 mg/ml, respectively.

Description

5-O-Demethylnobiletin is a flavonoid that has been found in *S. tragoriganum* and has diverse biological activities.¹⁻⁴ It induces neurite outgrowth and the expression of the genes encoding the neuronal differentiation and synapse formation markers growth-associated protein 43 (GAP43) and synaptophysin in PC12 cells when used at concentrations ranging from 10 to 20 μM.¹ 5-O-Demethylnobiletin (2.5-20 μM) reduces triglyceride levels in 3T3-L1 preadipocytes and decreases body weight, intra-abdominal fat, plasma and liver triglyceride levels, and plasma cholesterol levels in a mouse model of high-fat diet-induced obesity when administered at a dose of 25 mg/kg.² It reduces hepatic fibrosis and malondialdehyde (MDA) levels in a mouse model of carbon tetrachloride-induced liver injury.³ 5-O-Demethylnobiletin also reduces ear edema, inflammatory cell infiltration, and papillary fibrosis in a mouse model of inflammation induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014).⁴

References

1. Chiu, S.-P., Wu, M.-J., Chen, P.-Y., et al. Neurotrophic action of 5-hydroxylated polymethoxyflavones: 5-demethylnobiletin and gardenin A stimulate neuritogenesis in PC12 cells. *J. Agric. Food Chem.* **61**(39), 9453-9463 (2013).
2. Tung, Y.-C., Li, S., Huang, Q., et al. 5-Demethylnobiletin and 5-Acetoxy-6,7,8,3',4'-pentamethoxyflavone suppress lipid accumulation by activating the LKB1-AMPK pathway in 3T3-L1 preadipocytes and high fat diet-fed C57BL/6 mice. *J. Agric. Food Chem.* **64**(16), 3196-3205 (2016).
3. Chang, S.N., Kim, S.H., Dey, D.K., et al. 5-O-Demethylnobiletin alleviates CCL4-induced acute liver injury by equilibrating ROS-mediated apoptosis and autophagy induction. *Int. J. Mol. Sci.* **22**(3), 1083 (2021).
4. Bas, E., Recio, M.C., Giner, R.M., et al. Anti-inflammatory activity of 5-O-demethylnobiletin, a polymethoxyflavone isolated from *Sideritis tragoriganum*. *Planta Med.* **72**(2), 136-142 (2006).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.