

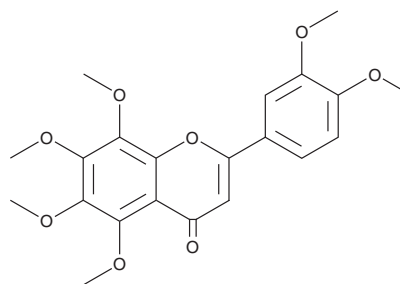
# PRODUCT INFORMATION



## Nobiletin

Item No. 15421

**CAS Registry No.:** 478-01-3  
**Formal Name:** 2-(3,4-dimethoxyphenyl)-5,6,7,8-tetramethoxy-4H-1-benzopyran-4-one  
**Synonyms:** NSC 76751, NSC 618903  
**MF:** C<sub>21</sub>H<sub>22</sub>O<sub>8</sub>  
**FW:** 402.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 208, 248, 271, 333 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 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

Nobiletin is supplied as a crystalline solid. A stock solution may be made by dissolving the nobiletin in the solvent of choice, which should be purged with an inert gas. Nobiletin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of nobiletin in these solvents is approximately 0.3, 10, and 15 mg/ml, respectively.

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

### Description

Nobiletin is a polymethoxylated flavonoid that has been found in *C. unshiu* and has diverse biological activities.<sup>1-3</sup> It reduces LPS- and IFN-γ-induced increases in inducible nitric oxide synthase (iNOS) protein levels and NO production in RAW 264.7 cells when used at concentrations of 25, 50, and 100 μM.<sup>1</sup> Nobiletin decreases proliferation of A549 lung, B16/4A5 melanoma, CCRF-HSB-2 leukemia, and TGBC11TKB gastric cancer cell lines with IC<sub>50</sub> values of 22, 18, 13, and 8.3 μM, respectively.<sup>2</sup> Dietary administration of nobiletin (0.3% w/w) reduces body weight, hepatic steatosis, and plasma LDL and HDL cholesterol levels in mice fed a high-fat, high-cholesterol diet for 18 weeks.<sup>3</sup> It also inhibits increases in plasma glucose levels in an intraperitoneal glucose tolerance test in the same model.

### References

1. Murakami, A., Nakamura, Y., Torikai, K., *et al.* Inhibitory effect of citrus nobiletin on phorbol ester-induced skin inflammation, oxidative stress, and tumor promotion in mice. *Cancer Res.* **60**(18), 5059-5066 (2000).
2. Kawai, S., Tomono, Y., Katase, E., *et al.* Antiproliferative activity of flavonoids on several cancer cell lines. *Biosci. Biotechnol. Biochem.* **63**(5), 896-899 (1999).
3. Morrow, N.M., Burke, A.C., Samsoondar, J.P., *et al.* The citrus flavonoid nobiletin confers protection from metabolic dysregulation in high-fat-fed mice independent of AMPK. *J. Lipid Res.* **61**(3), 387-402 (2020).

#### 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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