

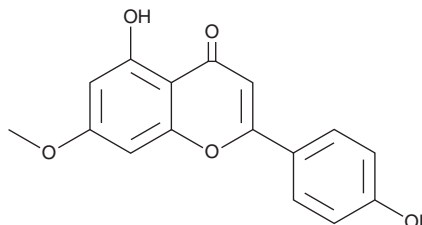
# PRODUCT INFORMATION



## Genkwainin

Item No. 35229

**CAS Registry No.:** 437-64-9  
**Formal Name:** 5-hydroxy-2-(4-hydroxyphenyl)-7-methoxy-4H-1-benzopyran-4-one  
**Synonyms:** Apigenin 7-methyl ether, 7-Methylapigenin, Puddumetin  
**MF:** C<sub>16</sub>H<sub>12</sub>O<sub>5</sub>  
**FW:** 284.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 268, 337 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Daphne genkwa*



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

### Laboratory Procedures

Genkwainin is supplied as a solid. A stock solution may be made by dissolving the genkwainin in the solvent of choice, which should be purged with an inert gas. Genkwainin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of genkwainin in these solvents is approximately 12 and 14 mg/ml, respectively. Genkwainin is also slightly soluble in ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of genkwainin can be prepared by directly dissolving the solid in aqueous buffers. The solubility of genkwainin in PBS (pH 7.2) is approximately 0.30 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Genkwainin is a flavonoid that has been found in *T. kirilowii* and has diverse biological activities.<sup>1,2</sup> It inhibits proliferation of MDA-MB-231 and MCF-7 breast cancer, Eca-109 esophageal carcinoma, and A549 lung adenocarcinoma cells (IC<sub>50</sub>s = 58.54, 101.4, 98.2, and 120.77 μM, respectively).<sup>1</sup> It decreases the levels of PI3Kγ, as well as the levels of phosphorylated Akt, mTOR, p70 ribosomal S6 kinase (p70S6K) and ULK, and induces apoptosis and cell cycle arrest at the G<sub>2</sub>/M phase in MDA-MB-231 cells. Genkwainin (20-40 μM) reverses increases in apoptosis, lactate dehydrogenase (LDH) release, and reactive oxygen species (ROS) production induced by 1-methyl-4-phenylpyridinium (MPP<sup>+</sup>) in an *in vitro* model of Parkinson's disease inflammation using SH-SY5Y cells.<sup>2</sup> It also reduces protein levels of toll-like receptor 4 (TLR4), MyD88, NOD-like receptor protein 3 (NLRP3), and caspase-1 in SH-SY5Y cells.

### References

- Zhang, H.-W., Hu, J.-J., Fu, R.-Q., *et al.* Flavonoids inhibit cell proliferation and induce apoptosis and autophagy through downregulation of PI3Kγ mediated PI3K/AKT/mTOR/p70S6K/ULK signaling pathway in human breast cancer cells. *Sci. Rep.* **8**(1), 11255 (2018).
- Li, Q., Zhang, P., and Cai, Y. Genkwainin suppresses MPP<sup>+</sup>-induced cytotoxicity by inhibiting TLR4/MyD88/NLRP3 inflammasome pathway in a cellular model of Parkinson's disease. *Neurotoxicology* **87**, 62-69 (2021).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM