

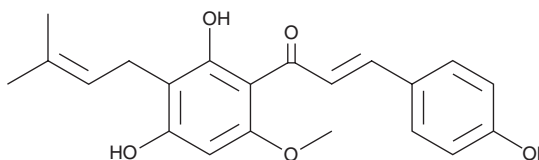
# PRODUCT INFORMATION



## Xanthohumol

Item No. 15399

**CAS Registry No.:** 6754-58-1  
**Formal Name:** (2E)-1-[2,4-dihydroxy-6-methoxy-3-(3-methyl-2-buten-1-yl)phenyl]-3-(4-hydroxyphenyl)-2-propen-1-one  
**MF:** C<sub>21</sub>H<sub>22</sub>O<sub>5</sub>  
**FW:** 354.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 348, 368 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

Xanthohumol is supplied as a crystalline solid. A stock solution may be made by dissolving the xanthohumol in the solvent of choice, which should be purged with an inert gas. Xanthohumol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of xanthohumol in ethanol and DMF is approximately 3 mg/ml and approximately 2.5 mg/ml in DMSO.

Xanthohumol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, xanthohumol should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Xanthohumol has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Xanthohumol is a natural prenylated chalcone isolated from the hop plant, *H. lupulus*. Xanthohumol and its metabolites induce protective detoxification enzymes, at least in part via the nuclear factor erythroid-2-related factor 2 pathway.<sup>1,2</sup> It inhibits phosphoinositide-dependent kinase 1 (IC<sub>50</sub> = 6.6 μM) but not PKC in an *in vitro* assay.<sup>3</sup> Xanthohumol also can have anti-inflammatory, antioxidant, anti-carcinogenic, and osteogenic effects.<sup>4-6</sup>

### References

1. Krajka-Kuzniak, V., Paluszczak, J., and Baer-Dubowska, W. Xanthohumol induces phase II enzymes via Nrf2 in human hepatocytes *in vitro*. *Toxicol. In Vitro* **27(1)**, 149-156 (2013).
2. Dietz, B.M. and Bolton, J.L. Biological reactive intermediates (BRIs) formed from botanical dietary supplements. *Chem. Biol. Interact.* **192(1-2)**, 72-80 (2011).
3. Lauro, G., Masullo, M., Piacente, S., *et al.* Inverse virtual screening allows the discovery of the biological activity of natural compounds. *Bioorg. Med. Chem.* **20(11)**, 3596-3602 (2012).
4. Costa, R., Negrao, R., Valente, I., *et al.* Xanthohumol modulates inflammation, oxidative stress, and angiogenesis in type 1 diabetic rat skin wound healing. *J. Nat. Prod.* **76(11)**, 2047-2053 (2013).
5. Venè, R., Benelli, R., Minghelli, S., *et al.* Xanthohumol impairs human prostate cancer cell growth and invasion and diminishes the incidence and progression of advanced tumors in TRAMP mice. *Mol. Med.* **18(1)**, 1292-1302 (2012).
6. Schilling, T., Ebert, R., Raaijmakers, N., *et al.* Effects of phytoestrogens and other plant-derived compounds on mesenchymal stem cells, bone maintenance and regeneration. *J. Steroid Biochem. Mol. Biol.* **139**, 252-261 (2014).

#### 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