

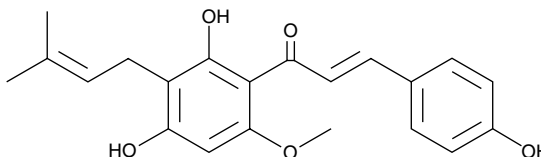
# Product Information



## 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%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 348, 368 nm



### Laboratory Procedures

For long term storage, we suggest that xanthohumol be stored as supplied at -20°C. It should be stable for at least two years.

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

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

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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., Negró, 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. Venč, 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**, 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).

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

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