

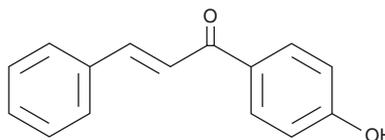
# PRODUCT INFORMATION



## 4'-hydroxy Chalcone

Item No. 22898

**CAS Registry No.:** 2657-25-2  
**Formal Name:** 1-(4-hydroxyphenyl)-3-phenyl-2-propen-1-one  
**Synonyms:** 2-Benzal-4'-hydroxyacetophenone,  
2-Benzylidene-4'-hydroxyacetophenone,  
*p*-Cinnamoylphenol, NSC 242264  
**MF:** C<sub>15</sub>H<sub>12</sub>O<sub>2</sub>  
**FW:** 224.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 228, 322 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

4'-hydroxy Chalcone is supplied as a crystalline solid. A stock solution may be made by dissolving the 4'-hydroxy chalcone in the solvent of choice, which should be purged with an inert gas. 4'-hydroxy Chalcone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 4'-hydroxy chalcone in these solvents is approximately 30 mg/ml.

4'-hydroxy Chalcone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4'-hydroxy chalcone should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 4'-hydroxy Chalcone has a solubility of approximately 0.2 mg/ml in a 1:4 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

4'-hydroxy Chalcone is a chalcone metabolite with diverse biological activities. It is formed when chalcone is metabolized by the cytochrome P450 (CYP) isoform CYP1A1 or CYP2C6.<sup>1</sup> 4'-hydroxy Chalcone is estrogenic in MCF-7 cells and is cytotoxic at concentrations higher than 100 nM. It inhibits TNF- $\alpha$ -induced NF- $\kappa$ B signaling and the trypsin-, chymotrypsin-, and caspase-like proteolytic activities of the 26S proteasome in K562 cells in a dose-dependent manner.<sup>2</sup> 4'-hydroxy Chalcone reduces growth of K562, U937, and Jurkat cancer cell lines in a dose-dependent manner without effecting viability of peripheral blood mononuclear cells (PBMCs). It also inhibits glutathione reductase (GSH-RD; IC<sub>50</sub> = 47.3  $\mu$ M) *in vitro* in a reversible and non-competitive manner.<sup>3</sup>

### References

1. Kohno, Y., Kitamura, S., Sanoh, S., *et al.* Metabolism of the  $\alpha,\beta$ -unsaturated ketones, chalcone and trans-4-phenyl-3-buten-2-one, by rat liver microsomes and estrogenic activity of the metabolites. *Drug Metab. Dispos.* **33(8)**, 1115-1123 (2005).
2. Orlikova, B., Tasdemir, D., Golais, F., *et al.* The aromatic ketone 4'-hydroxychalcone inhibits TNF $\alpha$ -induced NF- $\kappa$ B activation via proteasome inhibition. *Biochem. Pharmacol.* **82(6)**, 620-631 (2011).
3. Zhang, K., Yang, E.-B., Tang, W.-Y., *et al.* Inhibition of glutathione reductase by plant polyphenols. *Biochem. Pharmacol.* **54(9)**, 1047-1053 (1997).

#### 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

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