

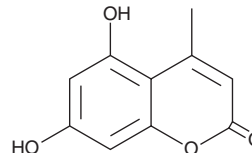
# PRODUCT INFORMATION



## 5,7-Dihydroxy-4-methylcoumarin

Item No. 33756

**CAS Registry No.:** 2107-76-8  
**Formal Name:** 5,7-dihydroxy-4-methyl-2H-1-benzopyran-2-one  
**Synonym:** NSC 5302  
**MF:** C<sub>10</sub>H<sub>8</sub>O<sub>4</sub>  
**FW:** 192.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 325 nm  
**Supplied as:** A 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

5,7-Dihydroxy-4-methylcoumarin is supplied as a solid. A stock solution may be made by dissolving the 5,7-dihydroxy-4-methylcoumarin in the solvent of choice, which should be purged with an inert gas. 5,7-Dihydroxy-4-methylcoumarin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 5,7-dihydroxy-4-methylcoumarin in these solvents is approximately 30 mg/ml.

5,7-Dihydroxy-4-methylcoumarin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 5,7-dihydroxy-4-methylcoumarin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 5,7-Dihydroxy-4-methylcoumarin 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

5,7-Dihydroxy-4-methylcoumarin is a synthetic coumarin with diverse biological activities.<sup>1-7</sup> It scavenges alkylperoxy radicals and hypochlorous acid (HOCl; IC<sub>50</sub> = 2.85 μM) in cell-free assays, as well as inhibits lipid peroxidation in rat liver microsomes, A23187-induced thromboxane B<sub>2</sub> (TXB<sub>2</sub>; Item No. 19030) generation in isolated rat peritoneal leukocytes, and myeloperoxidase (MPO) activity in a cell-free assay (IC<sub>50</sub>s = 12, 1, and 1.06 μM, respectively).<sup>1,2</sup> 5,7-Dihydroxy-4-methylcoumarin also inhibits rat lens aldose reductase (IC<sub>50</sub> = 17 μM) and human carbonic anhydrase I (CAI), CAIX, and CAXII with K<sub>i</sub> values of 8.4, 0.19, and 6.4 μM, respectively.<sup>3,4</sup> It inhibits platelet aggregation induced by arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) with an IC<sub>50</sub> value of 45 μM.<sup>6</sup> 5,7-Dihydroxy-4-methylcoumarin inhibits hepatitis C virus (HCV) non-structural protein 5B (NS5B) polymerase (IC<sub>50</sub> = 47.2 μM).<sup>5</sup> It is active against *H. pylori* with an MIC value of 10 μg/ml.<sup>7</sup>

### References

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3. Brubaker, A.N., DeRuiter, J., and Whitmer, W.L. *J. Med. Chem.* **29(6)**, 1094-1099 (1986).
4. Sharma, A., Tiwari, M.N., and Supuran, C.T. *J. Enzyme Inhib. Med. Chem.* **29(2)**, 292-296 (2014).
5. Nichols, D.B., Leão, R.A.C., Basu, A., et al. *Chem. Biol. Drug Des.* **81(5)**, 607-614 (2013).
6. Macáková, K., Řeháková, Z., Mladěnka, P., et al. *Biochimie* **94(12)**, 2681-2686 (2012).
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#### 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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#### 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