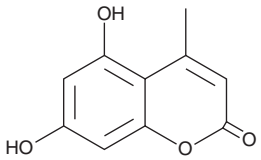
PRODUCT INFORMATION

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: $C_{10}H_8O_4$
FW: 192.2
Purity: ≥98%
UV/Vis.: λ_{max}: 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.[1-7] It scavenges alkylperoxy radicals and hypochlorous acid (HOCl; IC_{50} = 2.85 µM) in cell-free assays, as well as inhibits lipid peroxidation in rat liver microsomes, A23187-induced thromboxane B_2 (TXB_2; Item No. 19030) generation in isolated rat peritoneal leukocytes, and myeloperoxidase (MPO) activity in a cell-free assay (IC_{50}s = 12, 1, and 1.06 µM, respectively).[1,2] 5,7-Dihydroxy-4-methylcoumarin also inhibits rat lens aldose reductase (IC_{50} = 17 µM) and human carbonic anhydrase I (CAI), CAIX, and CAXII with K_i values of 8.4, 0.19, and 6.4 µM, respectively.[3,4] It inhibits platelet aggregation induced by arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) with an IC_{50} value of 45 µM.[6] 5,7-Dihydroxy-4-methylcoumarin inhibits hepatitis C virus (HCV) non-structural protein 5B (NS5B) polymerase (IC_{50} = 47.2 µM).[5] It is active against *H. pylori* with an MIC value of 10 µg/ml.[7]

References

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