

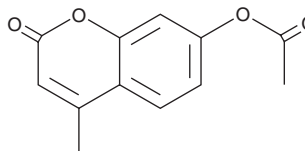
# PRODUCT INFORMATION



## 7-Acetoxy-4-methylcoumarin

Item No. 38909

**CAS Registry No.:** 2747-05-9  
**Formal Name:** 7-(acetyloxy)-4-methyl-2H-1-benzopyran-2-one  
**Synonyms:** 4-Methylumbelliferyl Acetate, 4-MUA, NSC 1059, NSC 31658, NSC 44763, NSC 688806,  
**MF:** C<sub>12</sub>H<sub>10</sub>O<sub>4</sub>  
**FW:** 218.2  
**Purity:** ≥95%  
**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

7-Acetoxy-4-methylcoumarin is supplied as a solid. A stock solution may be made by dissolving the 7-acetoxy-4-methylcoumarin in the solvent of choice, which should be purged with an inert gas. 7-Acetoxy-4-methylcoumarin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 7-acetoxy-4-methylcoumarin in these solvents is approximately 20 mg/ml.

### Description

7-Acetoxy-4-methylcoumarin is a fluorogenic substrate for carboxylesterase and acetylcholinesterase (AChE).<sup>1,2</sup> Upon hydrolysis of 7-acetoxy-4-methylcoumarin by carboxylic esterase or AChE, the fluorescent moiety 4-methylumbelliferyl (4-MU) is released, which displays pH-dependent excitation maxima of 330, 370, and 385 nm at pH 4.6, 7.4, and 10.4, respectively, and an emission maximum between 445-454 nm.<sup>3</sup> 7-Acetoxy-4-methylcoumarin has been used to detect the presence of carboxylesterases in isolated human lung tissue.<sup>1</sup>

### References

1. Gabriele, M., Puccini, P., Lucchi, M., *et al.* Presence and inter-individual variability of carboxylesterases (CES1 and CES2) in human lung. *Biochem. Pharmacol.* 150, 64-71 (2018).
2. Berman, H.A., and Leonard, K. Ligand exclusion on acetylcholinesterase. *Biochemistry* 29(47), 10640-10649 (1990).
3. Zhi, H., Wang, J., Wang, S., *et al.* Fluorescent properties of hymecromone and fluorimetric analysis of hymecromone in compound dantong capsule. *J. Spectrosc.* 147128 (2013).

#### 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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