**PRODUCT INFORMATION**

**Coumarin hydrazine**  
*Item No. 19111*

**CAS Registry No.:** 113707-87-2  
**Formal Name:** 7-hydrazinyl-4-methyl-2H-1-benzopyran-2-one  
**Synonyms:** BzCH, CH-1, 7-hydrazino-4-methyl Coumarin  
**MF:** C₁₀H₁₀N₂O₂  
**FW:** 190.2  
**Purity:** ≥90%  
**UV/Vis.:** λ<sub>max</sub>: 222, 324 nm  
**Ex./Em. Max:** 365/430-550 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years

*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

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**Laboratory Procedures**

Coumarin hydrazine is supplied as a crystalline solid. A stock solution may be made by dissolving the coumarin hydrazine in the solvent of choice. Coumarin hydrazine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of coumarin hydrazine in these solvents is approximately 1, 10, and 14 mg/ml, respectively.

Coumarin hydrazine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, coumarin hydrazine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Coumarin hydrazine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

**Description**

Coumarin hydrazine is an aromatic hydrazine-containing fluorophore that reacts with aldehydes or ketones for fluorescent labeling.<sup>1</sup> At neutral pH, coumarin hydrazine reacts faster with aldehydes than coumarin hydrazide to form hydrazones. Coumarin hydrazine acts as a fluorogenic sensor in live cells to detect carbonylated biomolecules that occur following oxidative stress.<sup>2</sup> It displays an excitation maximum of 365 nm, produces a red shift in emission from approximately 430-550 nm upon hydrozone formation, and displays a large Stokes shift of approximately 195 nm.

**Reference**