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	H
MF:	$C_{10}H_{10}N_2O_2$	N A
FW:	190.2	H ₂ N Y
Purity:	≥90%	
UV/Vis.:	λ _{max} : 222, 324 nm	
Ex./Em. Max:	365/430-550 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

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.¹ 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.² 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

- 1. Banerjee, A., Panosian, T.D., Mukherjee, K., et al. Site-specific orthogonal labeling of the carboxy terminus of a-tubulin. ACS Chem. Biol. 5(8), 777-785 (2010).
- 2. Mukherjee, K., Chio, T.I., Gu, H., et al. Benzocoumarin hydrazine: A large stokes shift fluorogenic sensor for detecting carbonyls in isolated biomolecules and in live cells. ACS Sens. 2(1), 128-134 (2017).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY 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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