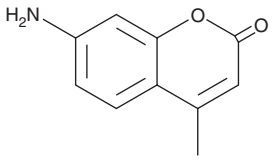
PRODUCT INFORMATION

7-Amino-4-methylcoumarin

Item No. 27792

CAS Registry No.:	26093-31-2
Formal Name:	7-amino-4-methyl-2H-1-benzopyran-2-one
Synonyms:	AMC, Coumarin 120, 4-methyl-7-aminocoumarin, NSC 45796
MF:	$C_{10}H_9NO_2$
FW:	175.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 233, 354 nm
Ex./Em. Max:	345/445 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

7-Amino-4-methylcoumarin (AMC) is supplied as a solid. A stock solution may be made by dissolving the AMC in the solvent of choice. AMC is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of AMC in these solvents is approximately 3 mg/ml.

AMC is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, AMC should first be dissolved in DMSO or DMF and then diluted with the aqueous buffer of choice. AMC has a solubility of approximately 0.02 mg/ml in a 1:40 solution of DMSO:PBS (pH 7.2) and approximately 0.01 mg/ml in a 1:50 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

AMC is a fluorescent probe for peptide labeling commonly used in the study of proteases.[1-3] Conjugation of AMC *via* its amino group to a peptide substrate results in quenching of the fluorescent signal.[1] Upon enzymatic cleavage of the peptide by proteases, AMC is released and its fluorescence can be used to quantify enzyme activity. AMC displays excitation/emission maxima of 345/445 nm, respectively.[4]

References

1. Wildeboer, D., Jeganathan, F., Price, R.G., *et al.* Characterization of bacterial proteases with a panel of fluorescent peptide substrates. *Anal. Biochem.* **384(2),** 321-328 (2009).
2. Kisselev, A.F. and Goldberg, A.L. Monitoring activity and inhibition of 26S proteasomes with fluorogenic peptide substrates. *Methods Enzymol.* **398,** 364-378 (2005).
3. Prudnikov, I.M. and Smirnov, A.N. Short peptide tools for monitoring caspase and proteasome activities in embryonal and adult rat brain lysates: An approach for the differential identification of proteases. *J. Biochem.* **151(3),** 299-316 (2012).
4. Zimmerman, M., Yurewicz, E., and Patel, G. A new fluorogenic substrate for chymotrypsin. *Anal. Biochem.* **70(1),** 258-262 (1976).

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