



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

L-Arginine-7-amido-4-methylcoumarin hydrochloride

Product Number **A 2027**

Storage Temperature -0 °C

Product Description

Molecular Formula: $C_{16}H_{21}N_5O_3$

CAS Number: 69304-16-1

Molecular Weight: 331.4

Specific Rotation: +92°

(1.01 g/100 ml, 25% acetic acid at 20 °C).

Synonym: Arg-NMec HCl

L-Arginine-7-amido-4-methylcoumarin hydrochloride can be utilized as a substrate in a direct fluorometric assay for cathepsin H.¹ The assay is a more sensitive and convenient assay than using benzoyl-arginine-2-naphthylamide which is commonly used in assays for cathepsin H. Since the substrate benzoyl-arginine-2-naphthylamide will not differentiate between cathepsin H and cathepsin B, Arg-NMec HCl is a more specific substrate for cathepsin H.^{1,2}

The reaction buffer for the enzyme assay consists of 200 mM KH_2PO_4 -200 mM Na_2HPO_4 , pH 6.8, with 4 mM EDTA and 40 mM cysteine. A 1 mM stock solution of Arg-NMec HCl may be prepared in DMSO and stored at 4 °C. The working concentration for use in the assay is 20 μ M. The enzyme sample being assayed should contain 40-400 ng cathepsin H.^{1,3}

The fluorescence of the free aminomethylcoumarin released is detected by excitation at 370 nm and emission at 460 nm. The fluorescence of aminomethylcoumarin is unaffected by pH over the range of pH 4 to pH 7.¹

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in 50% acetic acid (50 mg/ml), yielding a clear solution. It is also soluble at 1 mM in DMSO.

References

1. Barrett, A. J., Fluorometric assays for cathepsin B and cathepsin H with methylcoumarylamide substrates. *Biochem. J.*, **187(3)**, 909-912 (1980).
2. Singh, H., and Kalnitsky, G., Separation of a new α -N-benzoylarginine- β -naphthylamide hydrolase from cathepsin B1. Purification, characterization, and properties of both enzymes from rabbit lung. *J. Biol. Chem.*, **253(12)**, 4319-4326 (1978).
3. Barrett, A. J., and Kirschke, H., Cathepsin B, cathepsin H, and cathepsin L. *Methods Enzymol.*, **80(Pt. C)**, 535-561 (1981).

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