

Product Information

N-Acetyl-Ala-Lys-Lys 4-Methoxy-2-naphthylamide

Product Number **C 7608**

Storage Temperature -20°C

Product Description

Molecular formula: $\text{C}_{28}\text{H}_{42}\text{N}_6\text{O}_5$

Mol. wt.: 542.7

N-Acetyl-Ala-Lys-Lys 4-methoxy-2-naphthylamide (Ac-AKK-MNA) is a fluorogenic substrate suitable for the assay of plasmin.^{1,2}

When Ac-AKK-MNA is hydrolyzed, the free MNA produced in the reaction can be quantified by fluorometric detection (excitation 340 nm, emission 425 nm). MNA can also be detected by colorimetric procedures because it couples with azo compounds to give a red color product (525 nm).³ MNA also couples with 5-nitrosalicylaldehyde to give a yellow to orange fluorescent product for acid proteases.^{3,4}

Plasmin is a serine proteinase involved in fibrinolysis with a preference for Lys in the P1 position. It cleaves Ac-AKK-MNA at the lysyl-MNA bond, but not the lysyl-lysyl bond. This peptide is poorly hydrolyzed by urokinase, α -thrombin, Factor Xa, Factor IXa, Factor Xia, and Factor XIIa. Streptokinase-activated human plasmin will not hydrolyse Ac-AKK-MNA.¹

Preparation Instructions

Prepare 10mM stock solutions in DMF.

Storage/Stability

Store product at -20°C . Material stable for at least one year, if stored as recommended.

Store stock solutions in frozen aliquots at -20°C . Allow the material to warm to room temperature before use to ensure stability.

References

1. Kato, H., et.al., New fluorogenic peptide substrates for plasmin. J. Biochem. (Tokyo), **88**, 183-190 (1980).
2. Piezchala, P. A., et.al., A new fluorogenic substrate for plasmin. Biochem. J. **183**, 555-559 (1979).
3. Smith, R. E., et al., The evolution of proteinase substrates with special reference to dipeptidylpeptidase IV. Histochem. J., **24**, 637-47 (1992).
4. Arnold, W. H., Comparative studies on the localization of esterproteases and kallikrein-like activity in primate organs. Histochem. J., **16**, 755-69 (1984).

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