

Cat. No.: GC44157

Chemical Properties

Cas. No. 72252-90-5

SMILES COC(CCC(N[C@H](C(N[C@H](C(N1CCC[C@H]1C(N[C@@H](C(C)C)C(NC2=CC=CC(C)=CC(O3)=O)C3=C2)=O)=O)=O)C)=O)C)=O)=O

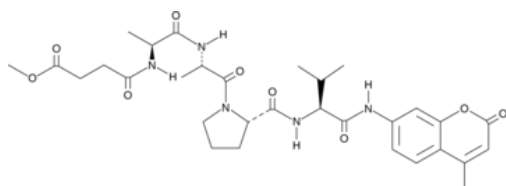
Formula	C ₃₁ H ₄₁ N ₅ O ₉	M.Wt	627.7
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Solubility	DMF: 20 mg/ml,DMF:PBS(pH 7.2) (1:1): 0.5 mg/ml,DMSO: 16 mg/ml	Storage	Store at -20°C
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General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
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Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.
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Structure



Protocol

MeOSuc-Ala-Ala-Pro-Val-AMC Fluorescence Method for Determining Elastase Activity^[1]

This protocol is adapted from research data and provided for reference only. Adjustments may be necessary based on specific experimental requirements.

1. Reagent Preparation: Dissolve MeOSuc-Ala-Ala-Pro-Val-AMC in dimethyl sulfoxide (DMSO) to prepare a stock solution, and store at -40°C. Before use, dilute the DMSO stock solution approximately 100-fold into the reaction buffer to achieve a final concentration of 400μM MeOSuc-Ala-Ala-Pro-Val-AMC, or adjust according to the requirements of kinetic experiments.

2. Preparation of test solution: Collect the supernatant after cell lysis, or prepare the working concentration of elastase (e.g., porcine pancreatic elastase; PPE; 50nM), and equilibrate at 37°C for 10 minutes before use for subsequent detection.

Caution: Product has not been fully validated for medical applications. For research use only.

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Product Data Sheet

3. Activity Assay: Rapidly mix 50µL of 400µM MeOSuc-Ala-Ala-Pro-Val-AMC with 50µL of the test solution in a 96-well clear bottom plate. Immediately record the fluorescence change over time using a fluorescence microplate reader (excitation/emission wavelengths = 355-380/440-460nm).

Precautions:

(1) For your safety and health, please wear a lab coat and disposable gloves during operation.

References:

[1] Ivanov D, Emonet C, Foata F, et al. A serpin from the gut bacterium *Bifidobacterium longum* inhibits eukaryotic elastase-like serine proteases. *J Biol Chem*. 2006 Jun 23;281(25):17246-17252.

Background

MeOSuc-Ala-Ala-Pro-Val-AMC is a highly sensitive and specific fluorescent substrate (excitation/emission wavelengths = 355-380/440-460nm) that can be used to determine the activity of neutrophil elastase. MeOSuc-Ala-Ala-Pro-Val-AMC can be used in research related to inflammatory lung diseases and cancer^[1-4].

References:

[1] Zhang J, Friberg IM, Kift-Morgan A, et al. Machine-learning algorithms define pathogen-specific local immune fingerprints in peritoneal dialysis patients with bacterial infections. *Kidney Int*. 2017 Jul;92(1):179-191.

[2] Eming SA, Smola-Hess S, Kurschat P, et al. A novel property of povidon-iodine: inhibition of excessive protease levels in chronic non-healing wounds. *J Invest Dermatol*. 2006 Dec;126(12):2731-3.

[3] Evans, Vikki. Synthesis of Optical Probes for the Visualization of Human Neutrophil Elastase. The University of Edinburgh (United Kingdom) ProQuest Dissertations & Theses. 2019. 28046287.

[4] Ivanov D, Emonet C, Foata F, et al. A serpin from the gut bacterium *Bifidobacterium longum* inhibits eukaryotic elastase-like serine proteases. *J Biol Chem*. 2006 Jun 23;281(25):17246-17252.

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