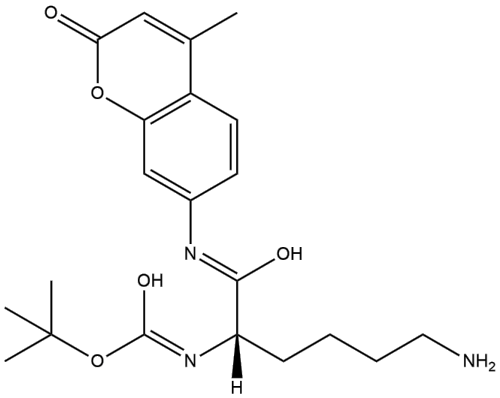
Product Data Sheet

Product Name: Boc-Lys-AMC
Cat. No.: GA21069

Chemical Properties

Cas. No.	116883-12-6		
Formula	$C_{21}H_{29}N_3O_5$	M.Wt	403.48
Solubility	Soluble in DMSO	Storage	Store at -20°C
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.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Protocol

Enzyme activity assay[1]

This plan is based on literature, please modify it to meet your specific needs.

1. Preparation of substrate working solution

(1) Prepare storage solution: Dissolve Boc-Lys-AMC in DMSO at concentration of 10-50mM.

Note: Unused storage solution should be aliquoted and stored in the dark at -20°C or -80°C to avoid repeated freezing and thawing.

(2) Prepare working solution: Dilute the storage solution with a reaction buffer.

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Note: Prepare the working solution fresh and store briefly at 4°C or on ice.

2. Preparation of enzyme working solution: Dilute enzyme with reaction buffer.

3. Prepare a 96-well plate:

Reaction wells: Add a mixture of Boc-Lys-AMC substrate and enzyme at concentrations of 10-50μM and 5-50nM, respectively.

Blank wells: Add Boc-Lys-AMC substrate at a concentration of 10-50μM, add reaction buffer to make up the volume.

4. Pre-incubate the 96-well plate at 37°C for 10-60min.

5. Measure the fluorescence intensity at 440-460nm under 350-360nm excitation using a fluorescence spectrophotometer.

Precautions:

1) Fluorescent substrate has quenching problems. Please avoid light as much as possible to slow down fluorescence quenching.

2) For your safety and health, please wear a lab coat and disposable gloves.

References:
[1] Ueki N, Wang W, Swenson C, McNaughton C, Sampson NS, Hayman MJ. Synthesis and Preclinical Evaluation of a Highly Improved Anticancer Prodrug Activated by Histone Deacetylases and Cathepsin L. Theranostics. 2016;6(6):808-816.

Background

Boc-Lys-AMC is a dipeptide fluorescent substrate containing AMC (7-amino-4-methylcoumarin). Boc-Lys-AMC has poor enzyme cleavage kinetics and is mainly used as a deacetylated readout product in Histone DeACetylase (HDAC) fluorescence detection systems or as a fluorescent control substrate for some protease activity assays[1][2].

References:

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[1] Wegener D, Wirsching F, Riester D, Schwienhorst A. A fluorogenic histone deacetylase assay well suited for high-throughput activity screening. *Chem Biol*. 2003;10(1):61-68.
[2] Ueki N, Wang W, Swenson C, McNaughton C, Sampson NS, Hayman MJ. Synthesis and Preclinical Evaluation of a Highly Improved Anticancer Prodrug Activated by Histone Deacetylases and Cathepsin L. Theranostics. 2016;6(6):808-816.

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