

Product Data Sheet

Product Name: Z-Lys-SBzl . HCl

Cat. No.: GA23877

Chemical Properties

Cas. No. 69861-89-8

Formula $C_{21}H_{26}N_2O_3S \cdot HCl$ M.Wt 422.98

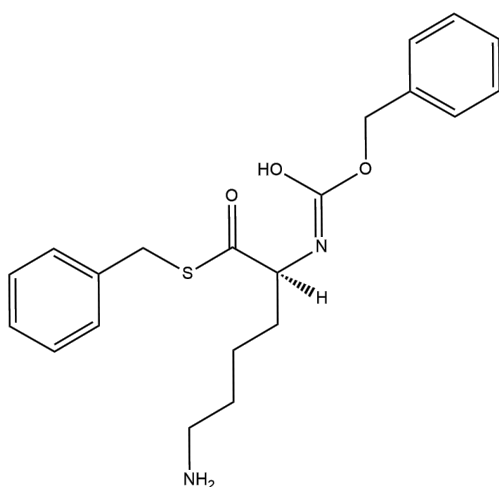
Solubility DMSO : 250 mg/mL (591.06 mM; Need ultrasonic) Storage Store at -20°C

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

HCl



Protocol

Measurement of Esterolytic Activity of Complement Factor D Using Z-Lys-SBzl . HCl [1]

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

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

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1. Reagent Preparation: Dissolve Z-Lys-SBzl . HCl in the reaction buffer for later use. Prepare a 0.10M Hepes buffer containing 0.50M NaCl and 9.8% DMSO, and a solution of 4,4'-dithiodipyridine.
2. Reaction System Setup: In a cuvette, establish a final reaction system with a volume of 1mL. The system contains the aforementioned Hepes buffer, 0.19mM Z-Lys-SBzl . HCl substrate, and 1 μ M of purified human complement Factor D.
3. Enzyme Activity Detection: Place the cuvette in a spectrophotometer and monitor the absorbance change at 324nm under 27°C conditions. The benzyl mercaptan released by Factor D hydrolysis of Z-Lys-SBzl-HCl immediately reacts with 4,4'-dithiodipyridine in the system to generate 4-thiopyridone. The molar extinction coefficient (ϵ) of this product at 324nm is 19,800M⁻¹ cm⁻¹. The initial rate of the enzymatic reaction (v_0) is calculated from the initial rate of increase in absorbance.

Precautions:

- (1) To verify the completion of the reaction, an excess amount of trypsin (e.g., 5 μ g) can be added to the system after measuring the initial rate to completely hydrolyze the remaining substrate in a short time, allowing for precise calculation of the initial substrate concentration.
- (2) For your safety and health, please wear a lab coat and disposable gloves during operation.

References:

[1] González-Rubio C, González-Muñiz R, Jiménez-Clavero MA, et al. Factor J, an inhibitor of the classical and alternative complement pathway, does not inhibit esterolysis by factor D. *Biochim Biophys Acta*. 1996 Jul 18;1295(2):174-8.

Background

Z-Lys-SBzl . HCl is a lysine derivative and a protease assay substrate. Z-Lys-SBzl . HCl serves as a thioester substrate for photometric assays to detect enzyme activity. Z-Lys-SBzl . HCl can be used in research related to protease activity determination and as an intermediate in peptide synthesis^[1-4].

References:

- [1] Gasparian ME, Ostapchenko VG, Schulga AA, et al. Expression, purification, and characterization of human enteropeptidase catalytic subunit in Escherichia coli. *Protein Expr Purif*. 2003 Sep;31(1):133-9.
- [2] Gasparian ME, Ostapchenko VG, Dolgikh DA, et al. Biochemical characterization of human enteropeptidase light chain. *Biochemistry (Mosc)*. 2006 Feb;71(2):113-9.
- [3] Lawson JH, Mann KG. Cooperative activation of human factor IX by the human extrinsic pathway of blood coagulation. *J Biol Chem*. 1991 Jun 15;266(17):11317-27.

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[4] Wilharm E, Tschopp J, Jenne DE. Biological activities of granzyme K are conserved in the mouse and account for residual Z-Lys-SBzl activity in granzyme A-deficient mice. FEBS Lett. 1999 Oct 1;459(1):139-42.

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