Product Data Sheet

Product Name: Z-Leu-Arg-AMC
Cat. No.: GA23847

Chemical Properties

Cas. No.	156192-32-4		
Formula	$C_{30}H_{38}N_6O_6$	M.Wt	578.67
Solubility	DMSO : 100 mg/mL (172.81 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	Z-Leu-Arg-AMC		

Protocol

Cathepsin B□□□□[1-2]
□□□□□□□□□□□□□□□□□□□□□□□□
1.□□□□□□□
□1□□□□□□□□□DMSO□□Z-Leu-Arg-AMC□□□□□□
□□:□□□□□□□□□□□-20°C□-80°C□□□□□□□□□□□□
□2□□□□□□:□□MES□□□□□□5mM□□□□□□DTT□□25mM 2-(4-Morpholino)□□□□□pH=5.0□□□□□□□
□□□□□□□□□□4 ℃□□□□□□□□
2.□MES□□□□37℃□□□□□cathepsin B□□□□□□0.1-1μg/mL□
3.□□□□96□□□□□□
□□□□□□□Z-Leu-Arg-AMC□□□□□□40-100μM□
□□□□□□□□□cathepsin B□□□□0.1-1μg/mL□
□□□: Z-Leu-Arg-AMC□□□cathepsin B□□□□□□□□□0.1-1μg/mL□40-100μM□
4. 96□□37°C□□10-60min□□□□□□350-360nm□□□440-460nm□□□□□□
□□□□□
1□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
2□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

References:

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[1] Yoon MC, Phan V, Podvin S, Mosier C, O'Donoghue AJ, Hook V. Distinct Cleavage Properties of Cathepsin B Compared to Cysteine Cathepsins Enable the Design and Validation of a Specific Substrate for Cathepsin B over a Broad pH Range. *Biochemistry*. 2023;62(15):2289-2300.

[2] Song Y, Fan H, Anderson MJ, et al. Electrochemical Activity Assay for Protease Analysis Using Carbon Nanofiber Nanoelectrode Arrays. *Anal Chem*. 2019;91(6):3971-3979.

Background

Z-Leu-Arg-AMC is a 4-methylcoumarinyl-7-amide (AMC) leucine derivative with carboxybenzoyl (Z). Z-Leu-Arg-AMC can be cleaved by cathepsin B, L, and S, and is mainly used to detect the enzyme activity of cysteine proteases such as cathepsin B[1][2][3].

References:
[1] Yoon MC, Phan V, Podvin S, Mosier C, O'Donoghue AJ, Hook V. Distinct Cleavage Properties of Cathepsin B Compared to Cysteine Cathepsins Enable the Design and Validation of a Specific Substrate for Cathepsin B over a Broad pH Range. *Biochemistry*. 2023;62(15):2289-2300.
[2] Song Y, Fan H, Anderson MJ, et al. Electrochemical Activity Assay for Protease Analysis Using Carbon Nanofiber Nanoelectrode Arrays. *Anal Chem*. 2019;91(6):3971-3979.
[3]BRENDA Enzyme Database. Cathepsin L (EC 3.4.22.15) substrate information. Technische Universität Braunschweig. Accessed March 10, 2026. https://www.brenda-enzymes.org

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