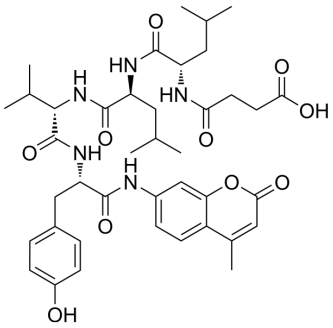
Suc-Leu-Leu-Val-Tyr-AMC



Cat. No.:	HY-P1002		
CAS No.:	94367-21-2		
Molecular Formula:	$C_{40}H_{53}N_5O_{10}$		
Molecular Weight:	763.88		
Sequence:	Suc-Leu-Leu-Val-Tyr		
Sequence Shortening:	Suc-LLVY		
Target:	Fluorescent Dye		
Pathway:	Others		
Storage:	Pure form	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month

SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 20 mg/mL (26.18 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent, Mass	1 mg	5 mg	10 mg
1 mM	1.3091 mL	6.5455 mL	13.0911 mL
5 mM	0.2618 mL	1.3091 mL	2.6182 mL
10 mM	0.1309 mL	0.6546 mL	1.3091 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Suc-Leu-Leu-Val-Tyr-AMC is a fluorogenic substrate.

In Vitro

Suc-Leu-Leu-Val-Tyr-AMC (Suc-LLVY) is a membrane-permeable calpain-specific fluorogenic substrate, pteolytic hydrolysis of the peptidyl-7-amino bond liberates the highly fluorescent 7-amino-4-methylcoumarin (AMC) moiety[1]. The effect?of TGF-β on hydrolysis of these substrates (e.g Suc-Leu-Leu-Val-Tyr-AMC) are assessed. Biliary epithelial H69 cells are incubated with 10, 1, 0.1, or 0 ng/mL TGF-β for 24 h. Substrate hydrolysis is then fluorometrically assessed in cytosolic extracts. Basal activity is 1.12, 8.33, and 14.52 nmol AMC/mg protein/min for suc-LLVY-AMC, z-LLE-AMC, and z-LLL-AMC hydrolysis, respectively[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [3]

Immunoprecipitation is carried out for the two sets of samples, using the same amount of protein. The 20 S and 26 S proteasome immunoprecipitates are washed with 50 mM Hepes/KOH (pH 7.5), and 50 mM Hepes/KOH (pH 7.5) containing 2 mMATP, respectively, prior to the determination of peptidase activity using 50 μM suc-Leu- Leu-Val-Tyr-AMC as substrate in these buffers[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nature. 2022 May;605(7910):567-574.
- Environ Sci Technol. 2019 Aug 20;53(16):9789-9799.
- Food Funct. 20 Sep 2021.
- BMC Dev Biol. 2021 Feb 1;21(1):4.

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REFERENCES

[1]. Roberta L. Debiasi, et al. Reovirus-Induced Apoptosis Is Preceded by Increased Cellular Calpain Activity and Is Blocked by Calpain Inhibitors. J Virol. 1999 Jan; 73(1): 695–701.

[2]. Tadlock L, et al. Transforming growth factor-beta inhibition of proteasomal activity: a potential mechanism of growth arrest. Am J Physiol Cell Physiol. 2003 Aug;285(2):C277-85. Epub 2003 Mar 19.

[3]. Gardner RC, et al. Characterization of peptidyl boronic acid inhibitors of mammalian 20 S and 26 S proteasomes and their inhibition of proteasomes in cultured cells. Biochem J. 2000 Mar, 2:447-54.

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