



N-Succinyl-Leu-Leu-Val-Tyr 7-Amido-4-trifluoromethylcoumarin

Product Number **S 4939**

Storage Temperature $-20\text{ }^{\circ}\text{C}$

Product Description

Molecular formula: $\text{C}_{40}\text{H}_{50}\text{F}_3\text{N}_5\text{O}_{10}$

Mol. wt.: 817.9

N-Succinyl-Leu-Leu-Val-Tyr 7-amido-4-trifluoromethylcoumarin (Suc-LLVY-AFC) is a fluorogenic substrate suitable for the assay of enzymes such as chymotrypsin and proteasome protease.¹

When Suc-LLVY-AFC is hydrolyzed, the free AFC produced in the reaction can be quantified by fluorometric detection (excitation 400 nm, emission 505nm) or by spectrophotometric detection at 380 nm (extinction coefficient = 12,600 at pH 7.2). When used in an enzyme assay with fluorescence detection, AFC has higher sensitivity than 4-methoxy-2-naphthylamide (MNA).²

Chymotrypsin is a serine protease with preferential cleavage at Tyr-, Trp-, Phe-, and Leu- residues. The 26S proteasome is a 2.5 Mda cellular complex that consists of approximately 31 different subunits.³ It is a self-compartmentalizing protease, which digests polyubiquitinated proteins in the process of ubiquitin-mediated proteolysis.⁴

Preparation Instructions

Prepare stock 20 mM solutions in DMSO. Also soluble in DMF.

Product Information

Storage/Stability

Store at $-20\text{ }^{\circ}\text{C}$. Product is stable for at least one year, if stored as recommended.

Store stock solutions in frozen aliquots at $-20\text{ }^{\circ}\text{C}$. Allow the material to warm to room temperature before use to ensure stability.

References

1. Orino, E., et al., ATP-dependent reversible association of proteasomes with multiple protein components to form 26S complexes that degrade ubiquitinated proteins in human HL-60 cells. *FEBS Lett.*, **284**, 206-210 (1991).
2. Johansen, H. T., et al., Colorimetric and fluorimetric microplate assays for legumain and a staining reaction for detection of the enzyme after electrophoresis. *Anal. Biochem.*, **273**, 278-283 (1999).
3. Voges, D., et al., The 26S proteasome: a molecular machine designed for controlled proteolysis. *Annu. Rev. Biochem.*, **68**, 1015-1068 (1999).
4. Kierszenbaum, A. L., The 26S proteasome: ubiquitin-mediated proteolysis in the tunnel. *Mol. Reprod. Dev.*, **57**, 109-110 (2000).

JXU/JWM 12/01

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