



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

D-Val-Leu-Lys 7-Amido-4-methylcoumarin

Product Number **V3138**

Storage Temperature -20°C

Product Description

Molecular formula: $\text{C}_{27}\text{H}_{41}\text{N}_5\text{O}_5$
Mol. wt.: 515.7

D-Val-Leu-Lys 7-amido-4-methylcoumarin (D-VLK-AMC) is a fluorogenic substrate suitable for the assay of tissue plasminogen activator.

When D-VLK-AMC is hydrolyzed, the free AMC produced in the reaction can be quantified by fluorometric detection (excitation 380 nm, emission 460 nm). When used in an enzyme assay with fluorescence detection, AMC has higher sensitivity than 4-methoxy-2-naphthylamide (MNA).

Tissue plasminogen activator (t-PA) is a fibrinolytic serine protease that converts plasminogen to plasmin, which, in turn, dissolves fibrin. t-PA plays a key role in the regulation of intravascular thrombolysis. t-PA prefers Arg or Lys at the site of hydrolysis. D-VLK-AMC may also be suitable for other serine proteases with the same peptide recognition sequence.

D-VLK-AMC is supplied as the trifluoroacetate salt.

Preparation Instructions

Prepare stock 20 mM solutions in DMSO.

Storage/Stability

Store at -20°C . Material stable for at least one year, when stored as recommended.

Store stock solutions in frozen aliquots at -20°C . Allow the material to warm to room temperature before use to ensure stability.

References

1. Shori, D.K., et al., New specific assays for tonin and tissue kallikrein activities in rat submandibular glands. Assays reveal differences in the effects of sympathetic and parasympathetic stimulation on proteinases in saliva. *Biochem. Pharmacol.*, **43**, 1209-1217 (1992).
2. Yu, J. X., et al., Prostatin is a novel human serine proteinase from seminal fluid. Purification, tissue distribution, and localization in prostate gland. *J. Biol. Chem.*, **269**, 18843-8 (1994).
3. Harris, J. L., et al., Rapid and general profiling of protease specificity by using combinatorial fluorogenic substrate libraries. *Proc. Natl. Acad. Sci. U.S.A.*, **97**, 7754 (2000).
4. 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).

JXU/JWM 12/01

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.