# PRODUCT DATA SHEET

**PEPTIDE NAME:** Mca-RPPGFSAFK(Dnp), Fluorogenic Substrate

**SEQUENCE:** Mca-Arg-Pro-Pro-Gly-Phe-Ser-Ala-Phe-Lys(Dnp)-OH [Mca=(7-methoxycoumarin-4-yl)acetyl; Dnp=2,4-dinitrophenyl]

**SEQUENCE DESCRIPTION:** Fluorogenic substrate for ECE-1 [$k_{cat}/K_m$ ($M^{-1}s^{-1}$) 1.9 x $10^7$][1,2] and ECE-2 ($k_{cat}/K_m$ 7.9 x $10^5$)[2], ACE and ACE2[3], neprilysin ($k_{cat}/K_m$ 1.7 x $10^6$)[1], MMP-2 and MMP-9 ($k_{cat}/K_m$ ~1.5 x $10^4$)[1], thimet oligopeptidase (TOP)( $k_{cat}/K_m$ 5.3 x $10^6$)[4], as well as cathepsin A, cathepsin X/Z, BACE, and insulinase, but not MMP-1[1]. Mca fluorescence is quenched by the Dnp group until cleavage separates them (ECE-1 cleaves the Ala-Phe bond). Ex.: 328nm, Em.: 393nm, but it is possible to use Ex./Em. 320-340/393-420nm. This substrate is useful for inhibitor screening and kinetic analysis.

**USAGE:** Dissolve the peptide with DMSO for a 10 mM stock solution. To ensure accurate concentration is achieved, both peptide purity and content need to be taken into account. Here is an example calculating the amount of DMSO needed to dissolve 1 mg Cat. # P-227 to 10mM, when its purity is 98% and content is 76.5%: (mol/1388.5g)x(1x$10^3$ mmol/mol)x(L/10 mmol)x(1x$10^6$ µl/L)x(g/1x$10^3$ mg)x(0.765x1 mg)x(0.98)=54.0 µl DMSO. Store at -20°C in aliquots.

**CATALOG NO.:** P-227

**LOT NO.:** temp

**MOLECULAR WEIGHT:** 1388.5

**PURITY:** >98.6% by HPLC analysis.

**AMINO ACID ANALYSIS AND IDENTITY:** Confirms.

**SUPPLIED AS:** 1 mg gross peptide/vial.

**PEPTIDE CONTENT:** 75%

**PHYSICAL APPEARANCE:** Lyophilized solid.

**SOLUBILITY:** DMSO 10 mM

**STORAGE:** -20°C desiccated. Protect from light.

**LITERATURE REFERENCES:**


1. G.D. Johnson and K. Ahn *Anal. Biochem.* 2000 **286** 112
2. N. Mzhavia et al. J. Biol. Chem. 2003 278 14704
3. M.P. Ocaranza *et al. Revista Chilena de Cardiología* 2005 **24** 83
4. J.A. Sigman *et al. Biochem. J.* 2005 **388** 255


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