



Mca-Y-V-A-D-A-P-K(Dnp)-OH *Fluorogenic Peptide Substrate VI*

Catalog Number: ES007

Lot Number: IKK03

Specifications and Use

- Sequence** ♦ Mca-Tyr-Val-Ala-Asp-Ala-Pro-Lys(Dnp)-OH (Enari, M. *et al.*, 1996, Nature **380**:723).
♦ Mca: (7-Methoxycoumarin-4-yl)acetyl, Dnp: 2, 4-Dinitrophenyl.
- Molecular Mass** ♦ 1145.2 Da.
- Purity** ♦ > 95% based on high performance liquid chromatography.
- Peptide Content** ♦ 74%.
- Quantity** ♦ 1 mg. It is sufficient for approximately 640 assays using the recommended conditions.
- Recommended Assay Conditions** ♦ A fluorescence plate reader with excitation at 320 nm and emission at 405 nm is recommended for the measurement of the enzymatic activity. The substrate can be used at the final concentration of 10 μ M in a total of 100 μ L reaction mixture.
- Applications** ♦ The peptide substrate contains a highly fluorescent 7-methoxycoumarin group that is efficiently quenched by resonance energy transfer to the 2,4-dinitrophenyl group. It can be used to measure the activities of peptidases that are capable of cleaving an amide bond between the fluorescent group and the quencher group, causing an increase in fluorescence.
♦ It is an excellent substrate for caspase-1/interleukin-converting enzyme (ICE) and angiotensin I-converting enzyme-2 (ACE-2) (Enari, M. *et al.*, 1996, Nature **380**:723; Vickers, C. *et al.*, 2002, J. Biol. Chem. **277**:14838). The cleavage sites by ICE and ACE-2 are the peptide bonds between Ala and Asp and between Pro and Lys, respectively.
- Formulation** ♦ Supplied as a stock solution in dimethyl sulfoxide (DMSO) at a concentration of 6.19 mg/mL or 4.0 mM.
- Shipping** ♦ The substrate is shipped with cold packs. Upon receiving, store it immediately at the temperature recommended below.
- Storage** ♦ Samples are stable for up to twelve months from date of receipt at -20° C to -70° C **in a manual defrost freezer**.
♦ Upon aliquoting, the substrate can be stored at -20° C to -70° C **in a manual defrost freezer** for six months.
♦ **Protect from exposure to direct light.**
♦ **Avoid repeated freeze-thaw cycles.**

Use of ES007 with R&D Systems Proteases (rh: recombinant human; rm: recombinant mouse)

Protease	Catalog #
rhBMP-1/PCP	1927-ZN
rhACE-2	933-ZN
rhMeprin α subunit	3220-ZN
rmACE-2	3437-ZN

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

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