



Mca-S-E-V-N-L-D-A-E-F-R-K(Dnp)-R-R-NH₂ *Fluorogenic Peptide Substrate IV*

Catalog Number: ES004

Lot Number: EXM04

Specifications and Use

- Sequence**
- ◆ Mca-Ser-Glu-Val-Asn-Leu-Asp-Ala-Glu-Phe-Arg-Lys(Dnp)-Arg-Arg-NH₂ (Koike, H. *et al.*, 1999, J. Biochem. **126**:235).
 - ◆ Mca: (7-Methoxycoumarin-4-yl)acetyl, Dnp: 2, 4-Dinitrophenyl.
- Molecular Mass**
- ◆ 2001 Da.
- Purity**
- ◆ 93.8% based on high performance liquid chromatography.
- Peptide Content**
- ◆ 82.8%.
- Quantity**
- ◆ 1 mg. After dilution, it is sufficient for approximately 400 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 μM in 100 μL of 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.
 - ◆ The substrate contains the Swedish mutation of the amyloid precursor protein (APP) β-secretase cleavage site. A K-R-R sequence is added for easy solubilization. It can be used to measure the activity of BACE-1 (R&D Systems, Catalog # 931-AS) and thimet oligopeptidase (Koike, H. *et al.*, 1999, J. Biochem. **126**:235).
- Formulation**
- ◆ Supplied as a stock solution in dimethyl sulfoxide (DMSO) (100 μL) at a concentration of 10.0 mg/mL or 4.1 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. Upon receiving, this substrate can be aliquoted and stored at -20° C to -70° C in a **manual defrost freezer** for six months without detectable loss of activity.
 - ◆ **Avoid repeated freeze-thaw cycles.**
 - ◆ **Protect from exposure to direct light.**

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

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