



Mca-P-L-A-Q-A-V-Dpa-R-S-S-S-R-NH₂ *Fluorogenic Peptide Substrate III*

Catalog Number: ES003

Lot Number: DWY07

Specifications and Use

- Sequence**
- ◆ Mca-Pro-Leu-Ala-Gln-Ala-Val-Dpa-Arg-Ser-Ser-Ser-Arg-NH₂ (Van Dyk, D.E. *et al.*, 1997, Bioorg. Med. Chem. Lett. **7**:1219).
 - ◆ Mca: (7-Methoxycoumarin-4-yl)acetyl, Dpa: N-3-(2, 4-Dinitrophenyl)-L-2,3-diaminopropionyl.
- Molecular Mass**
- ◆ 1638 Da.
- Purity**
- ◆ 95% based on high performance liquid chromatography.
- Peptide Content**
- ◆ 81.5%.
- Quantity**
- ◆ 1 mg. After dilution, it is sufficient for 520 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 a total of 100 μL reaction mixture with a chosen buffer such as 25 mM Tris, pH 8.0.
- 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 tumor necrosis factor- α converting enzyme (TACE or ADAM17) and related enzymes such as ADAM8, ADAM9 and ADAM10. The peptide sequence is derived from the pro tumor necrosis factor- α (TNF- α). The cleavage site by TACE/ADAM17 and ADAM10 is the peptide bond between Ala and Val.
- Formulation**
- ◆ Supplied as a stock solution in dimethyl sulfoxide (DMSO) at a concentration of 8.0 mg/mL or 4 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° to -70° C **in a manual defrost freezer**.
 - ◆ The substrate can be aliquoted and stored at the above conditions for six months.
 - ◆ **Avoid repeated freeze-thaw cycles.**
 - ◆ **Protect from exposure to direct light.**

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

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