

Mca-PLGL-Dpa-AR-NH₂
Fluorogenic Peptide Substrate

Catalog Number: ES001

Lot Number: DHY16

Specifications and Use

- Sequence**
- ◆ Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg-NH₂ (Knight, C.G. *et al.*, 1992, FEBS Lett. **296**:263 - 266).
 - ◆ Mca: (7-Methoxycoumarin-4-yl)acetyl, Dpa: N-3-(2, 4-Dinitrophenyl)-L-2,3-diaminopropionyl.
- Molecular Mass**
- ◆ 1093 Da.
- Purity**
- ◆ 98 ± 1% based on high performance liquid chromatography.
- Peptide Content**
- ◆ 85.8%.
- Quantity**
- ◆ 1 mg. It is sufficient for 750 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.
- 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 MMP-1 (collagenase 1), MMP-2 (gelatinase A), MMP-7 (matrilysin), MMP-8 (collagenase 2), MMP-9 (gelatinase B), MMP-12 (macrophage elastase), MMP-13 (collagenase 3), MMP-14 (MT1-MMP), MMP-15 (MT2-MMP) and MMP-16 (MT3-MMP). The cleavage site is the peptide bond between Gly and Leu.
 - ◆ It is also an excellent substrate for active Cathepsins D and E.
- Formulation**
- ◆ Supplied as a stock solution in dimethyl sulfoxide (DMSO) at a concentration of 7.99 mg/mL or 6.27 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.
 - ◆ The substrate can be aliquotted and stored -20° C to -70° C **in a manual defrost freezer** for six months.
 - ◆ **Avoid repeated freeze-thaw cycles.**
 - ◆ **Protect from exposure to direct light.**