

Mca-R-P-P-G-F-S-A-F-K(Dnp)-OH
Fluorogenic Peptide Substrate V

Catalog Number: ES005

Lot Number: FCH08

Specifications and Use

- Sequence** ♦ Mca-Arg-Pro-Pro-Gly-Phe-Ser-Ala-Phe-Lys(Dnp)-OH (Johnson, G.D. and K. Ahn, 2000, Anal. Biochem. **286**:112).
♦ Mca: (7-Methoxycoumarin-4-yl)acetyl, Dnp: 2, 4-Dinitrophenyl.
- Molecular Mass** ♦ 1388 Da.
- Purity** ♦ > 95% based on high performance liquid chromatography.
- Peptide Content** ♦ 88.2%.
- Quantity** ♦ 1 mg. After dilution, it is sufficient for approximately 600 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 endothelin-converting enzyme-1 (ECE-1) and neprilysin. The cleavage site by ECE-1 is the peptide bond between Ala and Phe (Johnson, G.D. and Ahn, K., 2000, Anal. Biochem. **286**:112). The substrate is derived from bradykinin.
♦ It is also an excellent substrate for ACE and active Cathepsin A and X/Z/P.
- Formulation** ♦ Stock solution at 4 mM or 6.26 mg/mL (0.16 mL) dimethyl sulfoxide (DMSO).
- 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 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.**