

Beta-Ala-R110-ML

Catalog number: 13205

Unit size: 1 mg

Product Details

Storage Conditions	Freeze (<-15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid
Molecular Weight	628.56
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	500 nm
Emission Wavelength	522 nm

Applications

Fluorometric methods based on the peptide substrates labeled with cleavable fluorophores have been widely used for assaying various proteases. The two dominant classes are AMC-based (coumarin dye) and R110-based (rhodamine 110) substrates. AMC substrates are much less sensitive due to their short wavelength, low extinction coefficient and high fluorescent background resulted from the autofluorescence of biological samples. R110-based peptide substrates have a longer excitation and emission wavelength, low background signal, and being highly fluorescent. However, R110-based peptide substrates carries two peptide blocking groups that need to be cleaved from their bis-peptide substrates in order to generate maximal signal. This two-step cleavage severely limits the linear dynamic range of R110-based peptide substrates. N-morpholinecarbonyl-R110 (R110-ML) has been successfully used to overcome both the poor cell penetration and the kinetic limitation of R110-based peptide substrates. R110-ML substrates are as sensitive as R110 substrates for most of protease detections. Beta-Ala-R110-ML is a fluorogenic substrate that might be used for detecting aminopeptidase M substrate, alanyl aminopeptidase and trypsin activities. Beta-Ala-R110-ML may be used for detecting some bacteria in food and other samples by monitoring their alanyl aminopeptidase activities. Compared to Ala-AMC (#13458), Beta-Ala-R110-ML is more sensitive. Its enzymatic product can be readily detected with the common FITC channel or FITC filter set.