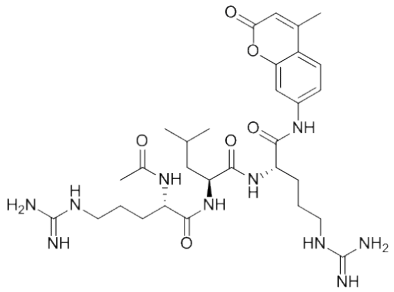
Lot # XXXXX

BostonBiochem

MATERIAL DATA SHEET

Ac-Arg-Leu-Arg-AMC (Ac-RLR-AMC)
Cat # S-290

Fluorogenic tri-peptide substrate for measuring the trypsin-like peptidase activity of the 20S proteasome. The 20S complex is composed of 28 subunits, arranged in an $\alpha_7\beta_7\beta_7\alpha_7$ stoichiometry. Each of the two internal β-type rings harbors three different proteolytically active sites, provided by the amino-terminal residues of three constitutive subunits: β1 (post-glutamyl peptide hydrolase site), β2 (trypsin-like site) and β5 (chymotrypsin-like site). Ac-RLR-AMC is particularly useful due to the low Km, high specific activity and the fact that it is cleaved exclusively at the amide R-AMC bond to release fluorescent product.

Product Information	
Quantity:	5 mg
Formula:	$C_{30}H_{46}N_{10}O_6$ **Formula Weight:** 642.8
Structure:	

Physical/Chemical Characteristics	
Stock:	Soluble at ≥ 20 mM in DMSO. For best results, pellet dry compound prior to reconstitution.
Purity:	> 97% by TLC, HPLC. Structure confirmed by NMR.

Use & Storage	
Use:	Ac-RLR-AMC is a fluorogenic substrate for measuring the trypsin-like hydrolyzing activity of the 20S proteasome. Release of AMC fluorescence can be monitored with an excitation wavelength of 345 nm and an emission wavelength of 445 nm. Reaction conditions will need to be optimized for each specific application.
Storage:	Store DMSO stock at -20°C. Avoid multiple freeze/thaw cycles.

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Literature

References: Kisselev, A.F., e*t al*. (2006) J. Biol. Chem. **281**: 8582
Kisselev, A.F. and Goldberg, A.L. (2005) Meth. Enzy. **398**: 364
Rogders K.J. and Dean R.T. (2003) Intl. J. Biochem.Cell.Biol. **35**: 716

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