

MATERIAL DATA SHEET**Ac-Arg-Leu-Arg-AMC (Ac-RLR-AMC)****Cat # S-290**

Fluorogenic tri-peptide aldehyde 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: β_1 ("post-glutamyl peptide hydrolase" site), β_2 ("trypsin-like" site) and β_5 ("chymotrypsin-like" site). Ac-Arg-Leu-Arg-AMC is particularly useful due to the low K_m , 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:** 642.76

Physical/Chemical Characteristics

Solubility: Soluble in DMSO, methanol and aqueous solutions. For best results, pellet dry compound prior to reconstitution. Solubilize at desired stock concentration.
Purity: > 97% by reverse-phase HPLC.

Use & Storage

Use: Add from DMSO stock directly to *in vitro* or *in vivo* assay at desired concentration. Activity with purified proteasome: $K_m = 78\mu M$. Typical concentrations range from 10-100 μM . (λ_{ex} : 380nm; λ_{em} : 460 nm)
Storage: Store solid at $-20^\circ C$ for up to 1 year. Stock solution at $-20^\circ C$ for up to one month. Avoid multiple freeze/thaw cycles.

Literature

References: Kisselev, A.F., *et al.* (2006) *J. Biol. Chem.* **281**:8582-8590.
Kisselev, A.F. and A.L. Goldberg. (2005) *Meth. Enzy.* **398**:364-378
Rogders K.J. and Dean R.T. (2003) *Intl. J. Biochem.Cell.Biol.* **35**:716-727

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