

Lot # XXXXX

BostonBiochem

## MATERIAL DATA SHEET

### Ac-Trp-Leu-Ala-AMC (Ac-WLA-AMC)

Cat # S-330

The 20S Proteasome is the catalytic core component of the multi-complex 26S Proteasome that selectively degrades intracellular proteins. It is commonly associated with regulatory complexes, which include the 19S Proteasome, the PA28 alpha/beta complex, or the PA28 gamma complex. The 20S Proteasome is composed of 28 subunits arranged into four stacked rings. The outer rings, containing seven subunits each, are composed of closely-related but non-identical alpha subunits. The amino-terminal tails of the alpha subunits form a gate that restricts substrate entry into the catalytic core. The inner rings, also containing seven subunits each, are composed of closely-related but non-identical beta subunits. The amino-terminal tails of six of the beta subunits, three per ring, have proteolytic activity. Inhibition of 20S Proteasome proteolytic core activity using small molecule inhibitors is a valuable tool for the functional study of a variety of proteins and for therapeutic intervention. The 20S Proteasome can be activated chemically by the addition of detergent or by the proteinaceous activator PA28 Activator alpha.

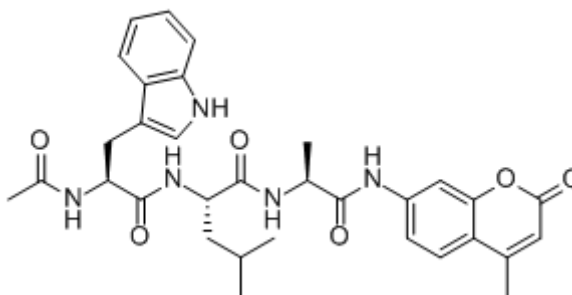
This fluorogenic tri-peptide substrate may be used to monitor Proteasome activity. It is hydrolyzed by the chymotrypsin-like activity of the  $\beta 5c$  (PSMB5) subunit.

#### Product Information

**Quantity:** 2 mg

**Formula:**  $C_{32}H_{37}N_5O_6$       **Formula Weight:** 587.7

**Structure:**



#### Physical/Chemical Characteristics

**Stock:** Soluble at  $\geq 10$  mM in DMSO. For best results, pellet dry compound prior to reconstitution.

**Purity:**  $> 97\%$  by HPLC

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## Use & Storage

- Use:** Ac-WLA-AMC is a fluorogenic substrate for measuring the  $\beta 5$  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  $-20^{\circ}\text{C}$ . Avoid multiple freeze/thaw cycles.

## Literature

- References:** Cascio, P. *et al.* (2001) EMBO J. **20**: 2357  
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Rev: 07/01/2015

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