

MATERIAL DATA SHEET**Suc-Leu-Tyr-AMC (Suc-LY-AMC)****Cat. # S-260**

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 α/β complex, or the PA28 γ 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 PA28 Activator proteins.

This fluorogenic tri-peptide substrate may be used to monitor 20S proteasome activity. It is hydrolyzed by the chymotrypsin-like peptidase activity of the 20S proteasome, calpains and other chymotrypsin-like proteases, including the Ti protease from *E.coli*.

Product Information**Quantity:** 5 mg**Formula:** C₂₉H₃₃N₃O₈**Formula Weight:** 551.6**Physical/Chemical Characteristics****Solubility:** Soluble at ≥ 10 mM in DMSO and MeOH (recommend DMSO stock solution). Pellet dry compound prior to DMSO addition.**Purity:** > 95% by TLC, HPLC. Structure confirmed by NMR.**Use & Storage****Use:** Suc-LY-AMC is a fluorogenic substrate for measuring the chymotryptic activity of the 20S proteasome and other proteases. 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 at -20°C. Avoid multiple freeze/thaw cycles.

Literature

- References:** Arendt C. S. and Hochstrasser M. (1997) Proc. Natl. Acad. Sci. **94**: 7156
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