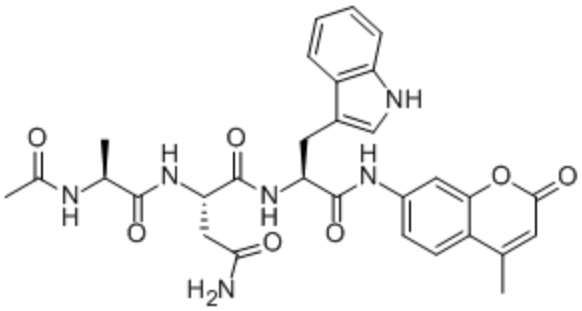
Lot # XXXXX

BostonBiochem

MATERIAL DATA SHEET

Ac-Ala-Asn-Trp-AMC (Ac-ANW-AMC)
Cat # S-320

The 20S Immunoproteasome is a modified form of the constitutively active 20S Proteasome core particle and is the catalytic subunit of the multi-complex Immunoproteasome. The structure of the 20S Immunoproteasome is similar to the 20S Proteasome, which is composed of 28 non-identical subunits arranged into four stacked rings. However, during 20S Immunoproteasome assembly, the three catalytic beta subunits, β1, β2, and β5, in the two interior rings of the 20S Proteasome are replaced by three IFNγ-inducible catalytic subunits: β1i/LMP2, β2i/MECL-1, and β5i/LMP7. The 20S Immunoproteasome is commonly associated with the 19S, PA28 α/β, or the PA28γ regulatory complexes. 20S Immunoproteasome expression is enriched in antigen presenting cells of the immune system where the 20S Immunoproteasome selectively degrades intracellular proteins in a manner that optimizes the generation of peptides for MHC class I antigen presentation. Selective inhibition of 20S Immunoproteasome proteolytic activity using small molecule inhibitors is being examined for therapeutic intervention in cancer and inflammatory diseases.
This fluorogenic tri-peptide substrate may be used to monitor Immunoproteasome activity. It is hydrolyzed by the Imunoproteasome β5i/LMP7 subunit.

Product Information		
Quantity:	2 mg	
Formula:	$C_{30}H_{32}N_6O_7$	**Formula Weight:** 588.6
Structure:		

Physical/Chemical Characteristics	
Stock:	Soluble at ≥ 10 mM in DMSO. For best results, pellet dry compound prior to reconstitution.
Purity:	> 95% by HPLC

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Use & Storage	
Use:	Ac-ANW-AMC is a fluorogenic substrate for measuring the β5i/LMP7 activity of the 20S Immunoproteasome. 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.

Literature

References:

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