

Lot # XXXXX

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MATERIAL DATA SHEET

26S Proteasome, *human*

Cat. # E-365

The 26S Proteasome is the major non-lysosomal protease in eukaryotic cells and is responsible for the degradation of ubiquitinated substrates and misfolded proteins. It is composed of two subcomplexes: the 20S Proteasome core particle and the 19S Proteasome regulatory particle. The 20S Proteasome facilitates proteolytic cleavage of protein substrates and is composed of 28 subunits arranged into four stacked rings. The outer rings of the 20S Proteasome are composed of seven related but non-identical, non-catalytic subunits, alpha1-7, that form a gate and restrict substrate access. The inner rings of the 20S Proteasome are composed of seven related but non-identical subunits, beta1-7. Beta1, 2, and 5 have proteolytic activity. The 19S Proteasome caps one or both ends of the core particle and regulates substrate access to the catalytic core in an ATP-dependent manner by modulating 20S Proteasome conformation. The 19S Proteasome consists of a base subcomplex and a lid subcomplex. The base subcomplex is composed of six AAA⁺ family members, scaffolding proteins, and regulatory proteins involved in Ubiquitin recognition. The 19S Proteasome lid subcomplex contains at least eight subunits including the deubiquitinating enzyme, Rpn11. Small molecules that inhibit the activity of the 26S Proteasome are used to study the function of short-lived intracellular proteins and for the clinical treatment of certain forms of cancer. This highly purified 26S Proteasome preparation (from a transfected HEK cell line) can be used for the *in vitro* degradation of peptide substrates and polyubiquitinated proteins.

Product Information

Quantity:	25 50 µg
Stock:	X mg/ml (X µM) in 20 mM HEPES pH 7.5, 20 mM NaCl, 2 mM Mg ²⁺ -ATP, 15% (v/v) Glycerol.
MW:	2100 kDa
Purity:	> 95% by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie Blue stain

Use & Storage

Use:	The Human 26S Proteasome can be used for <i>in vitro</i> degradation of appropriate substrates. The 26S Proteasome should be used immediately after thawing since it is inherently labile and will dissociate into free 20S and 19S subcomplexes over time. Reaction conditions will need to be optimized for each specific application. We recommend an initial Human 26S Proteasome concentration of 2-20 nM.
Storage:	Store at -80°C. Avoid multiple freeze-thaw cycles.

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Literature

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Rev: 05/16/2016

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