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MATERIAL DATA SHEET

Mouse 20S Proteasome
Cat. # E-355

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 (1). The 20S Proteasome is composed of 28 subunits arranged into four stacked rings (2,3). 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 (4). The 20S Proteasome can be activated chemically by the addition of detergent or by the proteinaceous activator PA28 Activator alpha (5).

Product Information	
Quantity:	50 µg
MW:	700 kDa
Source:	Mouse erythrocytes
Stock:	X mg/ml (X µM) in 50 mM HEPES pH 7.6, 150 mM NaCl, 1 mM DTT.
Purity:	>95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Use & Storage	
Use:	The Mouse 20S Proteasome is able to degrade substrates in an ATP-independent manner. It can be activated chemically with SDS (0.035%) or by the addition of PA28. Reaction conditions will need to be optimized for each specific application. We recommend an initial Mouse 20S Proteasome concentration of 0.5-5 nM.
Storage:	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -70 °C as supplied. • 3 months, -70 °C under sterile conditions after opening.

Literature

References:

1. Stadtmueller, B.M. & C.P. Hill (2011) Mol. Cell **41**:8.
2. Kim, H.M. *et al.* (2011) Biochim. Biophys. Acta **1809**:67.
3. Xie, Y. (2010) J. Mol. Cell Biol. **2**:308.
4. Kisselev, A.F. *et al.* (2012) Chem. Biol. **19**:99.
5. Ma, C.P. *et al.* (1992) J. Biol. Chem. **267**:10515.

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