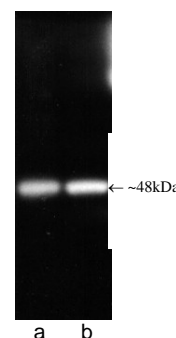


<b>Product name(s):</b>	<b>Anti-19S Regulator ATPase Subunit Rpt6 (S8), Monoclonal (clone p45-110)</b>
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<b>Catalogue number:</b>	PW 9265	<b>Batch number:</b>	Z04027	<b>Expiry date:</b>	10/2004
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<b>Product information:</b>
The hybridoma secreting the antibody to subunit Rpt6 was generated by fusion of splenocytes from OF1 X Balb/c F1 hybrid mice, that had received repeated immunisation with a full length human recombinant protein, with Sp2/O-Ag14 myeloma cells. The antibody (clone p45-110) has been characterised by one-dimensional Western blotting. The immunoglobulin subclass is IgG <sub>2b</sub> . Vial contains an immunoglobulin preparation, partially purified from ascites, containing 0.01M sodium azide.

<b>Application data:</b>
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<p>The proteasome is widely recognised as the central enzyme of non-lysosomal protein degradation. It is responsible for intracellular protein turnover and it is also critically involved in many regulatory processes and, in higher eukaryotes, in antigen processing. The 26S proteasome is the key enzyme of the ubiquitin/ATP-dependent pathway of protein degradation. The catalytic core of this unusually large (2000kDa, 450Å in length) complex is formed by the 20S proteasome, a barrel shaped structure shown by electron microscopy to comprise of four rings each containing seven subunits.</p> <p>Based on sequence similarity, all fourteen 20S proteasomal subunit sequences may be classified into two groups, <math>\alpha</math> and <math>\beta</math>, each group having distinct structural and functional roles. The <math>\alpha</math>-subunits comprise the outer rings and the <math>\beta</math>-subunits the inner rings of the 20S proteasome. Observations of the eukaryotic proteasome and analysis of subunit sequences indicate that each ring contains seven different subunits (<math>\alpha_7\beta_7\beta_7\alpha_7</math>) with a member of each sub-family represented in each particle. Each subunit is located in a unique position within the <math>\alpha</math>- or <math>\beta</math>-rings<sup>1</sup>.</p> <p>In addition to the 20S particle, the 26S complex contains over twenty additional proteins, ranging in molecular weight from 25 to 10kDa, located in a distinct complex called the 'PA700 proteasome activator' or the '19S complex', and which determines substrate specificity and provides the multiple enzymatic functions necessary for proteolysis and viability. Systematic analysis of the sub-unit components have revealed at least six members to be ATPases belonging to a new family of ATP-binding proteins, together with a further fifteen sub-units that lack the capacity to bind ATP, isopeptidases and several other proteins thought to be responsible for the unfolding of a protein substrate prior to insertion into the proteolytic core of the 20S proteasome<sup>2</sup>.</p> <p><b>Data:</b> Subunit Rpt6; alternative names: 26S proteasome ATPase subunit 5, S8, p45, TRIP 1 (human), CIM3, SUG1 (yeast); GDB ref: PSMC5; chromosomal locus: 17q24-17q25; Swiss-Prot accession number: P47210; length: 406 amino acids; molecular weight: 45653.; theoretical pI 8.23.</p> <p><b>Immunoblotting</b> - Single dimension SDS-PAGE of a HeLa S3 S100 cytosol preparation followed by Western blotting gives a single band with a relative molecular weight of approximately 48kDa as shown opposite.</p> <p><b>Immunoprecipitation</b> - This antibody has been characterised for use in immunoprecipitation.</p> <p><b>Species reactivity</b>:- This antibody has been shown to react with the desired protein in material of human, rat and mouse origin.</p>	 <p style="text-align: right;">← ~48kDa</p> <p style="text-align: center;">a    b</p> <p><b>Luminograph of HeLa S3 S100 cytosol preparation after SDS PAGE followed by blotting onto PVDF membrane and probing with antibody PW 9265. Antibody dilution 1:1000 (lane a) and 1:5000 (lane b) using ECL procedure.</b></p>
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<b>Storage and use:</b>
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Store unopened vial at -20°C until required for use. AVOID REPEATED FREEZE-THAW CYCLES. Aliquot undiluted antibody into smaller volumes (not less than 10µL) prior to freezing if appropriate. The use of high quality 'antiserum-grade' plastic or glass vials is recommended. Store diluted antibody at 2-4°C (do not freeze) and use within 1 month. Dilute to working strength with phosphate buffered saline pH 7.2-7.4.
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<b>Background references:</b>
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1. Kopp, F., Hendil, K.B., Dahlmann, B., Kristensen, P., Sobek, A. and Uerkevitz, W. Subunit arrangement in the human 20S proteasome. <i>Proc. Natl. Acad. Sci. USA</i> , <b>94</b> , 2939-2944 (1997).
2. Tanaka, K. and Tsurumi, C. The 26S proteasome: subunits and functions. <i>Molecular Biology Reports</i> , <b>24</b> , 3-11 (1997).