

Product name(s):	Anti-19S Regulator Non-ATPase Subunit Rpn6 (S9), Polyclonal				
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Catalogue number:	PW 8370	Batch number:	Z02656	Expiry date:	05/2004
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Product information:

The polyclonal antibody to Rpn6 was generated by immunisation of rabbits with a recombinant protein corresponding to the C-terminal region (~25kDa) of the *Arabidopsis thaliana* Rpn6 protein. The antibody has been characterised by one-dimensional SDS PAGE/Western blotting. Vial contains an immunoglobulin preparation suspended in 50% glycerol:50% phosphate-buffered saline containing 0.01M sodium azide.

Application data:

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.

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^{2,3}.

Data:

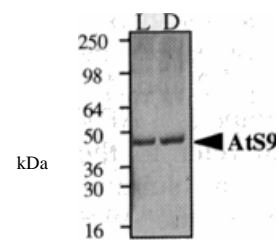
Subunit Rpn6; alternative names: 26S proteasome non-ATPase subunit 11, S9 (human); GDB ref: PSMD11; chromosomal locus: not currently known; NCBI accession number: o00231; length: 422 amino acids; molecular weight: 47464.; theoretical pI 6.08.

Immunoblotting - Single dimension SDS-PAGE of plant cell extracts gives a single band with a relative molecular weight of approximately 48kDa⁴.

Immunoprecipitation - This antibody has been characterised for use in immunoprecipitation of the target protein from plant cell lysates⁴.

Immunohistochemistry - This antibody has been characterised for use in immunofluorescence analysis of Arabidopsis protoplasts⁴.

Species reactivity:- This antibody has been shown to react with *Arabidopsis* and cauliflower proteins.



Extracts from wild-type light-grown (L) and dark-grown (D) *Arabidopsis thaliana* seedlings after SDS PAGE followed by blotting onto PVDF membrane and probing with antibody PW 8370. Antibody dilution 1:1000.



Immunofluorescence in wild-type *Arabidopsis* proteoplasts (derived from roots grown in dark) probed with antibody PW8370 and detected with FITC-labelled secondary antibody.

Storage and use:

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 and 1% normal goat serum (if a goat anti-rabbit IgG linker antibody is to be used).

References:

- Kopp, F., Hendil, K.B., Dahmann, B., Kristensen, P., Sobek, A. and Uerkvitz, W. Subunit arrangement in the human 20S proteasome. *Proc. Natl. Acad. Sci. USA*, **94**, 2939-2944 (1997).
- Tanaka, K. and Tsurumi, C. The 26S proteasome: subunits and functions. *Molecular Biology Reports*, **24**, 3-11 (1997).
- Dubiel, W., Ferrell, K. and Rechsteiner, M. Subunits of the regulatory complex of the 26S protease. *Molecular Biology Reports*, **21**, 27-34 (1995).
- Kwok, S. F., Staub, J. M. and Deng, X-W. Characterisation of two subunits of Arabidopsis 19S proteasome regulatory complex and its possible interaction with the COP9 complex. *J. Mol. Biol.*, **285**, 85-95 (1999).