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Inspiration for Life Science

**POLYCLONAL ANTIBODY**

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**Catalog No. BAM-63-135-EX**

# Anti-Ppa2 (*S. pombe*) antibody, rabbit serum

**BACKGROUND**

*Schizosaccharomyces pombe* **Ppa2** is a type 2A-like serine/threonine-protein phosphatase catalytic subunit whose polypeptide sequence has ~80% identity to those of mammalian type 2A phosphatases. **Ppa2** determines the sensitivity to okadaic acid, which is an inhibitor of protein serine/threonine phosphatases. The loss of the ***ppa2*** gene causes cells to be hypersensitive to the okadaic acid. **Ppa2** plays important roles in cell cycle control. It may be involved in controlling the entry into mitosis, possibly acting as an inhibitor (ref.1). **Ppa2** is abundant in the cytoplasm, in contrast to the type 1-like phosphatase Dis2, which is enriched in the nucleus. Thus **Ppa2** may perform major functions outside the nucleus.

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| **Product type** | Primary antibodies |
| **Host** | Rabbit |
| **Source** | serum |
| **Form** | Liquid |
| | Rabbit antiserum added with 0.05 % sodium azide |
| **Volume** | 100 µl |
| **Concentration** | |
| **Specificity** | Ppa2 |
| **Antigen** | Recombinant C-terminal polypeptide (26kDa) of *S. pombe* Ppa2 (Ref. 1) |
| **Isotype** | |

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| **Application notes** | Immunoblotting, Immunofluorescence microscopy, Immunoprecipitation<br>**Recommended use**<br><br>**Recommended dilutions**<br>Immunoblotting (dilution: 1/1000)<br><br>Optimal dilutions/concentrations should be determined by the end user.<br>**Data Link:** Swiss-Prot P23636<br>**Staining Pattern** |
| **Cross reactivity** | The antibody recognized both Ppa1 and Ppa2 polypeptides in *S. pombe* because of their high amino acid similarity (~80% identity) (Fig.1 and ref. 1). |
| **Storage** | -20°C (long period, -70°C) |
| **References** | 1) Kinoshita N *et al* “Negative regulation of mitosis by the fission yeast protein phosphatase ppa2.” *Genes Dev* **7**: 1059-1071 (1993) PMID: 8389306<br><br>2) Kinoshita K *et al* “The regulatory subunits of fission yeast protein phosphatase 2A (PP2A) affect cell morphogenesis, cell wall synthesis and cytokinesis.” *Genes Cell* **1**:29-45 (1996) PMID: 9078365 |

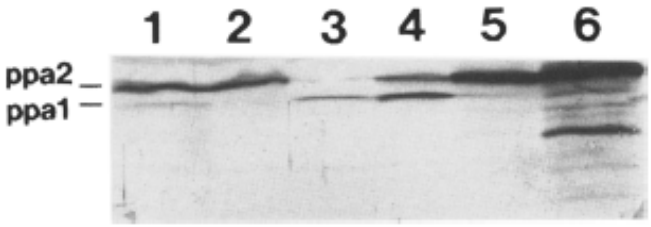


Fig.1 Identification of Ppa1 and Ppa2 proteins. An immunoblot with anti-ppa2 antibody is shown (ref.1).
lane 1: Wild-type *S. pombe*
lane 2: ppa1
lane 3: ppa2
lane 4: Wild-type carrying a multicopy plasmid with ppa1 gene
lane 5: Wild-type carrying a multicopy plasmid with ppa2 gene
lane 6:Wild-type carrying a multicopy plasmid with ADH promoter ligated with ppa2 gene

The positions of ppa1 (36 kDa) and ppa2 (39 kDa) polypeptide bands are indicated.

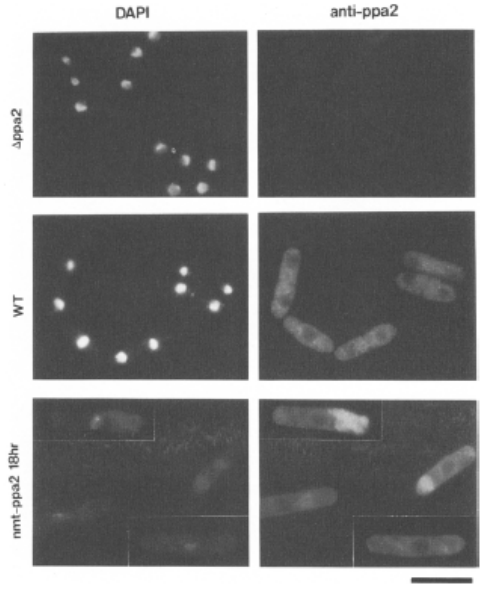


Fig.2 Cellular location of Ppa1 and Ppa2 (ref.1).
Indirect immunofluorescence microscopy of *Δppa2* deletion, wild type (WT), and wild-type overexpressing *ppa2* (*nmt-ppa2*, 18hr) was done, using anti-ppa2 antibody (right);
The same cells stained by DAPI are also shown (left).

Immunofluorescence was hardly detected in Δppa2 cells, whereas cytoplasmic immunofluorescence was abundant in wild-type cells. Wild-type cells carrying *nmt-ppa2* plasmid overexpress Ppa2 protein in the absence of thiamine for 18 hr. Immunofluorescence was enhanced further in the cytoplasm, often accumulated at the nuclear periphery or within restricted domains. The deformation of chromosomal DNA was also visible in overexpressed cells.
Bar, 10um.

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