

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

63-135 (100 µl)

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.

Applications

1. Immunoblotting (dilution: 1/1000)
2. Immunofluorescence microscopy
3. Immunoprecipitation

Specification

Immunogen: Recombinant C-terminal polypeptide (26kDa) of *S. pombe* Ppa2 (Ref. 1)

Specificity: 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).

Form: Rabbit antiserum added with 0.05 % sodium azide

Storage: Shipped at 4 °C and stored at -20°C (long period, -70°C)

Data Link: Swiss-Prot [P23636](#)

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](#)
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: Δ *ppa1*

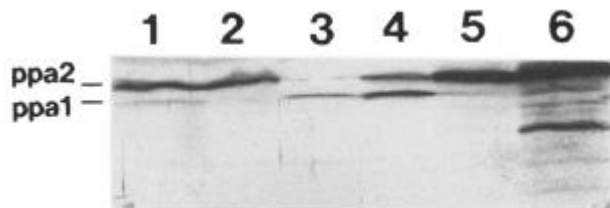
lane 3: Δ *ppa2*

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.



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Fig.2 Cellular location of Ppa1 and Ppa2 (ref.1).

Indirect immunofluorescence microscopy of Δ ppa2 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 Δ ppa2 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 cell.

Bar, 10um

