anti-Sds22 (*S. pombe*) antibody, rabbit serum

63-141 100 µl

Shipping and Storage: Shipped at 4℃ or -20℃ and store at -20℃.

Immunogen: Recombinant C-terminal region (1.8kb) of *S. pombe* Sds22 (1)

Form: Rabbit antiserum added with 0.05 % sodium azide

Reactivity: Specific to *S. pombe*

Applications:

1. Immunoblotting (dilution: 1/200~1/500) (Ref 1,2,3)
2. Immunoprecipitation (Ref 2)
3. Immunofluorescence microscopy

Background: *Schizosaccharomyces pombe* **Sds22** protein contains leucine-rich repeats and physically interacts with the catalytic subunits of two type 1 protein phosphatases (Dis2 and Sds21). **Sds22** is a regulatory subunit of these phosphatases and the **Sds22**-bound phosphatases carry a key phosphatase activity essential for the progression from metaphase to anaphase. **Sds22** is essential for cell viability and in its absence, cells were blocked in metaphase. **Sds22** protein is predicted to form a repeating helical rod that is capable of enhancing a PP1-dependent dephosphorylation activity.

Data Link: Swiss-Prot P22194

References: This antibody has been used in Ref. 1, 2 and 3.

1. Ohkura H and Yanagida M "S.pombe gene sds22+ essential for a midmitotic transition encodes a leucine-rich repeat protein that positively modulates protein phosphatase-1." *Cell* **64**: 149-157 (1991) PMID: 1846086
2. Stone EM *et al* "Mitotic regulation of protein phosphatases by the fission yeast sds22 protein." *Curr Biol* **3**: 13-26 (1993) PMID: 15335873
3. Ishii K *et al* "Requirement for PP1 phosphatase and 20S cyclosome/APC for the onset of anaphase is lessened by the dosage increase of a novel gene *sds23*+." *EMBO J.* **15**:6629-6640 (1996) PMID: 8978689

to be continued

Fig.1 Immunoblot with anti-Sds22 antiserum of yeast extracts from (1) wild type strain HM123, (2) *sds∷ura4+* deletion mutant carrying pHR140-2 (ref.2).

The 40kD protein band was identified by immunoblot analysis of wild-type strain using anti-Sds22 antisera (lane1). The 40 kD band is enhanced in the *sds22∷ura4+* disruptrion mutant strain that is rescued by the multicopy *sds22+* plasmid pHR140-2 (lane2).

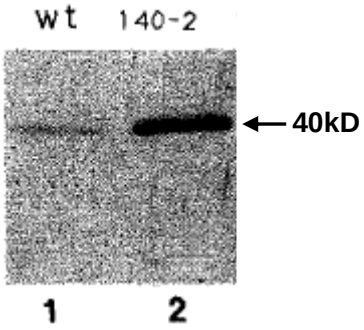

Fig.2 Sds22 coprecipitates with Dis2 and Sds21 (ref.2).

Yeast extracts of wild type (wt) strain HM123 (lane 1 and 2), *dis2∷ura4+* deletion mutant (Δd2, lane 3), *sds21∷ura4+* deletion mutant (Δs21, lane 4) were immunoprecipitated followed by immunoblotting with the indicated antiserum, to detect the Sds22 or Dis2/Sds21 proteins.

Lane 1 was immunoprecipitated with the appropriate preimmune serum, lane 2-4 with the anti-Sds22 serum.

(a) denotes anti-Sds22 immunoblot; (b) denotes anti-D2C immunoblot. Anti-D2C crossreacts with both Sds21 and Dis2.

Anti-Sds22 antiserum coprecipitates both Dis2 and Sds21 proteins in the wild type strain (lane 2b). Consistently, Sds21 alone is precipitated in the *dis2* deletion mutant (lane 3b), and Dis2 alone is precipitated in the *sds21* deletion mutant (lane 4b).

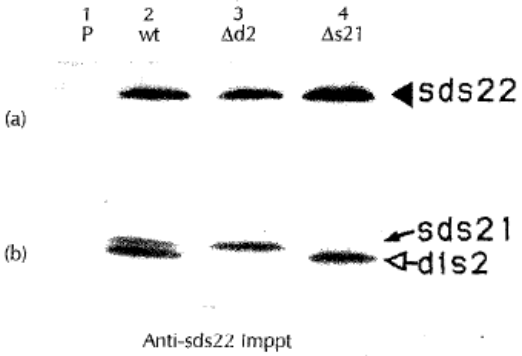

Fig.3 Sds22 subcellular localization

Indirect immunofluorescence microscopy was performed by staining methanol fixed cells with (first column) anti-Sds22 antiserum, or (second column) DAPI to visualize chromosomal DNA.

(a) wild type HM123; (b) HM123 carrying multicopy *sds22+* plasmid pHR140-2. Anti-Sds22 antibody stains the cytoplasm as well as the non-chromosomal domain of the nucleus of a wild type strain, as shown in (a). Nuclear staining increases in strains carrying a multicopy *sds22+* plasmid (b).