Bio Academia
Manufacturer

AS ONE

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

63-141 100 µl

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.

Applications

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

Specifications

Immunogen: Recombinant C-terminal region (1.8kb) of *S. pombe* Sds22 (1)
Specificity**:** Specific to *S. pombe*
Form: Rabbit antiserum with 0.05 % sodium azide
Storage: Ship at 4°C and long term storage at -20°C

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

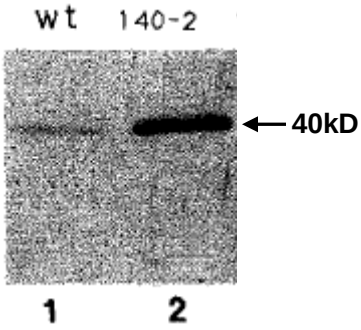

Fig.1 Immunoblot with anti-Sds22 antiserum of yeast extracts from (1) wild type strain HM123, (2) *sds::ura4+* deletion mutant carrying pHR140-2 (ref.2).
The 40kD protein band was identified by immunoblot analysis of wild-type strain using anti-Sds22 antisera (lane1). The 40 kD band is enhanced in the *sds22::ura4+* disruption mutant strain that is rescued by the multicopy *sds22+* plasmid pHR140-2 (lane2).

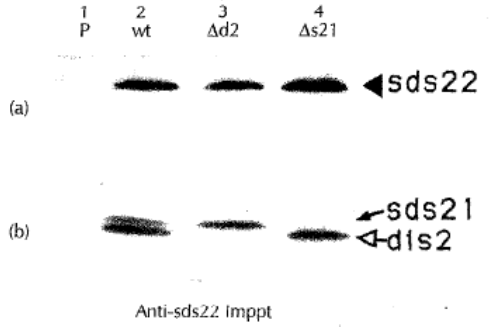

Fig. 2 Sds22 coprecipitates with Dis2 and Sds21 (ref.2).
Yeast extracts of wild type (wt) strain HM123 (lane 1 and 2), *dis2::ura4+* deletion mutant (Δd2, lane 3), *sds21::ura4+* deletion mutant (Δs21, lane 4) were immunoprecipitated followed by immunoblot with the indicated antiserum, to detect the 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 cross reacts 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).

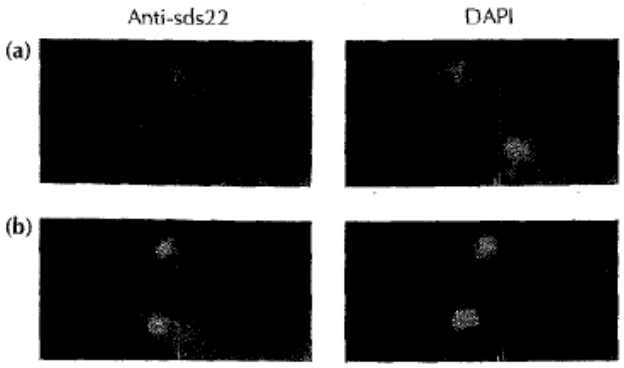

Fig. 3 Sds22 subcellular localization
Indirect immunofluorescence microscopy was performed by staining methanol fixed cells with (first column) anti-Sds22 antiserum, or (second column) DAPI to visualize chromosomal DNA.
(a) wild type HM123; (b) HM123 carrying multicopy *sds22+* plasmid pHR140-2. Anti-Sds22 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).