

## Anti-Rad21 (*S. pombe*) antibody, rabbit serum

63-139 50  $\mu$ l

**Storage:** Ship at 4°C, and aliquot and stored at -20°C. Avoid repeated freeze-thaw cycle.

**Specific Reactivity:** *S. pombe* Rad21 protein.

**Immunogen:** Recombinant full-size *S. pombe* Rad21 protein (His-tagged)

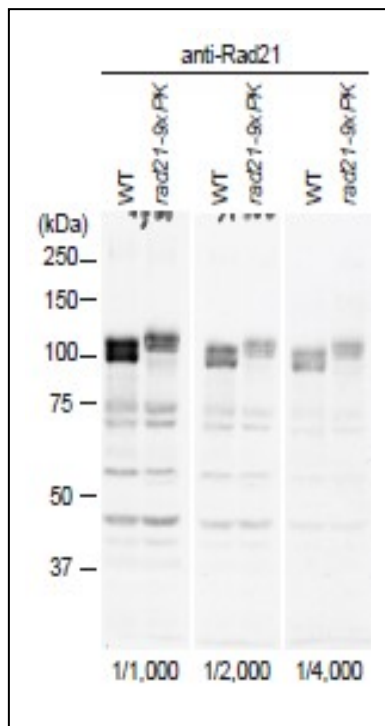
### Applications

Western blotting (1/1,000~1/4,000 dilution). Not tested for other applications

**Form:** Rabbit antiserum added with 0.05 % sodium azide

**Background:** Rad21 protein (628 aa, 67.8 kDa) is a cleavable component of the cohesin complex, involved in chromosome cohesion during cell cycle. The cohesin complex is required for the cohesion of sister chromatids after DNA replication. The cohesin complex apparently forms a large proteinaceous ring within which sister chromatids can be trapped. At metaphase-anaphase transition, this protein is cleaved by Cut1 and dissociates from chromatin, allowing sister chromatids to segregate. Also involved in the DNA double-strand-break (DSB) repair system Hyperphosphorylated during S and G2 phases. Proteolytic cleavage of a fraction of hyperphosphorylated form at the onset of anaphase may be essential for the proper progression of anaphase and sister chromatid separation. Belongs to the rad21 family, conserved to mammals.

**Data Link:** [S. pombe Gene DB: rad21](#)



**Figure** Identification of Rad21 protein in crude extract of *S. pombe* with anti-Rad21 antibody.

WT cells and *rad21-9xPK* cells grown in Y5S to  $1 \times 10^7$ , collected, washed and broken by glass beads. Twenty  $\mu$ g proteins per lane were run on SDS-PAGE. First antibody at indicated dilutions in PBST plus 2.5% skim milk was incubated at 4°C overnight. Second antibody at 1/10,000 of anti-rabbit HRP in PBST was incubated at room temperature for 1 h. Detected by ECL (X-ray film). Rad21 protein migrated at the position of ~110 kDa in SDS-PAGE although the molecular mass kDa (R.ef.3). Multiple bands of Rad21 reflect n phosphorylation states.

**References:** This antibody was used in the following references.

1. Nagao K, Adachi Y, Yanagida M. Separase-mediated cleavage required for DNA repair. *Nature*. (2004) 430:1044-8. [pubmed/15329725](#) **WB (S. pombe)**
2. Nagao K, Yanagida M. Securin can have a separase cleavage site by substitution mutations in the domain required for stabilization and inhibition of separase. *Genes Cells*. 2006 Mar;11(3):247-60. PMID:[16483313](#). **WB (S. pombe)**
3. Adachi Y et al. Cut1/separase-dependent roles of multiple phosphorylation of fission yeast cohesion subunit Rad21 in post-replicative damage repair and mitosis. *Cell Cycle*. (2008) 15:765-76. [pubmed/18239448](#). **WB (S. pombe)**
4. Murayama Y, Uhlmann F. Biochemical reconstitution of topological DNA binding by the cohesin ring. *Nature*. 2014 Jan 16;505(7483):367-71. PMID: [24291789](#). **WB (S. pombe)**