

**Rad51 Protein (human ), functional**

10-001 20 µg,

10-002 100µg

Human Rad51 protein is a functional and structural homolog of *E. coli* RecA protein, which plays a major role in genetic recombination and recombination repair by mediating strand exchange reaction between homologous DNA strands (1). Rad51 functionally and physically interacts with its paralogs Dmc1, Rad51B, Rad51C, Rad51D, Xrcc2 and Xrcc3, and also with Rad52 in recombination processes. It also interacts with oncogene proteins and tumor suppressors such as BRCA1, BRCA2, and p53 for the maintenance of genome stability (1).

The product was highly purified from *E. coli* over-expressing human Rad51 protein as a recombinant protein (Fig. 1). Since the tag was removed from the recombinant protein (it still contains Gly-Ser-His at the N-terminal), it has been shown to retain nuclear filament forming and strand-exchange activity as well as interaction with Rad52 (2). This product was confirmed to possess single strand DNA stimulated ATPase activity.

**Application**

- 1) Studies on homologous recombination in mammals including human
- 2) Studies on the interaction of Rad51 protein with various proteins
- 3) To be used as a standard for western blotting.

**Specification**

**Purity:** > 95% as judged from SDS-PAGE analysis (Fig.1)

**Form:** 1 mg/ml in 20 mM Tris-HCl pH8.0

100 mM KCl, 1 mM DTT, 0.5 mM EDTA, 20% glycerol

**Storage:** -70C

**Reference:** This product was used in reference 2 and 3

1. Friedberg EC, et al. DNA Repair and Mutagenesis 2nd ed., ASM Press
2. Kurumizaka H, Human Rad51 amino acid residues required for Rad52 binding.  
J Mol Biol. 1999 Aug 20;291(3):537-48

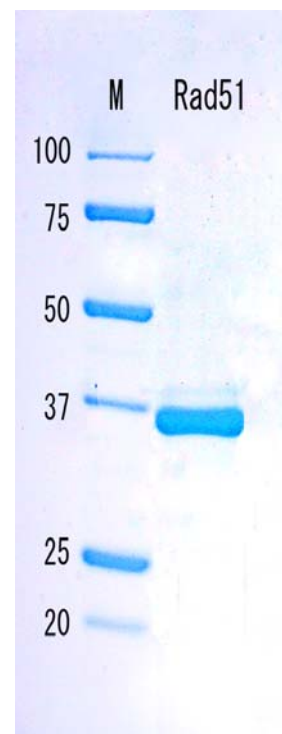
- 3 Murayama Y. et al. Formation and branch migration of Holliday junctions mediated by eukaryotic recombinases.  
Nature 451:1018-1021 (2008)

**Related Products:** 70-001 Anti-Rad51(human ) rabbit serum 70-003 Anti-Rad51(human ) chicken serum

70-005 anti-Rad51(human ) antibody IgY 70-009 Anti-Rad51(human ) antibody (affinity purified IgY)

01-001 *E. coli* RecA Protein 10-003 Rad52(human) Protein 61-003 Anti-RecA rabbit serum

62-101 Ant-Rad51(*S.cerevisiae*)rabbit serum 63-001 Anti-Rhp51(*S.pombe*) rabbit serum



**Rad51 protein by SDS-PAGE.**