

Anti-Rad51 (human) antibody, chicken polyclonal (IgY)

70-005 100 µg

Shipping and Storage: Ship at 4°C and store at -20°C. Do not freeze below -20°C

Reactivity: Human, mouse, rat, hamster

Immunogen: Recombinant full-size human red51 protein, no tag peptide attached.

Applications

- 1) Western blotting (1/1,000-1/5,000)
- 2) Immunoprecipitation (1/100-1/500)
- 3) Immunofluorescent staining (1/100-1/2,000)

Form: 1 mg/ml in 100 mM NaCl, 20 mM phosphate buffer (pH 7.4), 50% glycerol

Background: 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 oncogenes and tumor suppressors such as BRACA1, BRACA2, and P53 for the maintenance of genome stability (1). The product was purified (Fig.1) from the eggs laid by immunized chicken with full-size recombinant Rap51 protein expressed in *E. coli* and purified.

IgY antibody shows significantly less backgrounds than IgG antibody of mammals in immuno-reactions

Data Link UniProtKB/Swiss-Prot [Q06609](http://www.uniprot.org/entry/Q06609) (RAD51_HUMAN)

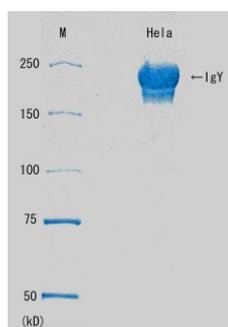


Fig.1 SDS-PAGE (without Et-SH) analysis of the purified IgY

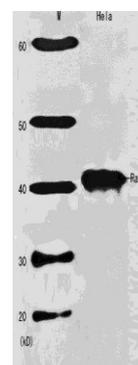


Fig. 2 Western blot analysis of Rad51 in HeLa cell extract

The antibody was used at 1/1,000 dilution

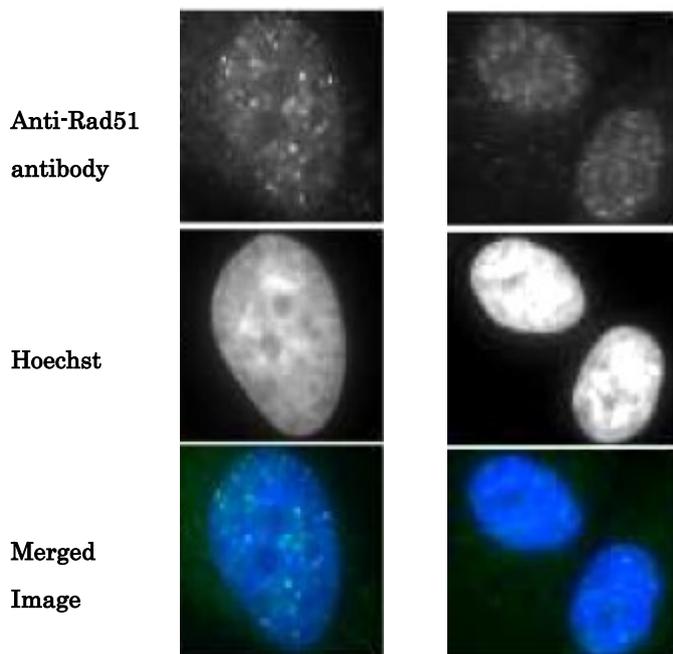


Fig. 3. Detection of Rad51 protein foci formation with the anti-Rad51 antibody in X-ray irradiated human fibroblast cells, GM0637.

- 1) The cells were irradiated with X-ray at 2 Gy, grown for 1 hr, fixed with 4% paraformaldehyde for 10 min and washed with PBS three times.
- 2) Permeabilized by treatment with 0.5% Triton for 5 min and washed with PBS three times.
- 3) Incubated with the anti-Rad51 antibody at 1/100 dilution (left panel) or 1/1,000 dilution (right panel) for 30 min at 37°C and washed with PBS three times.
- 4) As the second antibody, Alexa488-conjugated anti-chicken IgY antibody was used at 1/5,000 dilution.
- 5) DNA was stained with Hoechst for 1 min and mounted.

References: This antibody has been used in the following publication.

Nakada S et al. RNF8 regulates assembly of RAD51 at DNA double-strand breaks in the absence of BRCA1 and 53BP1. [Cancer Res.](#) 2012 Oct 1;72(19):4974-83. PMID: [22865450](#).IF (human, mouse)

Related Products : [10-001](#)Rad51protein (human) [10-003](#) Rad52 protein (human)

[70-001](#) anti-Rad51 antibody, rabbit antiserum

[70-003](#) anti-Rad51 antibody, chicken antiserum

[70-012](#) anti-Rad51 antibody, rabbit polyclonal, affinity purified

[70-015](#) anti-Rad52 antibody, rabbit polyclonal, affinity purified