Anti-Rad51 (Human) antibody, rabbit polyclonal

Product code	70-012
Size	100 µg
Storage	-20℃
Concentration	1.0 mg/ml
Buffer	PBS- with 50% glycerol
Purity	Affinity-purified with immunogen.
Immunogen	Full-size recombinant human Rad51 protein (BioAcademia #10-001)
Isotype	Rabbit IgG
Reactivity	Human, Rodents, Chicken, Xenopus
Special notes	N/A
Application	1. Western blotting (1/1,000 ~1/10,000 dilution). Fig.1 2. Immunoprecipitation(1/1,00-1/1,000). Fig.2 3. Chromatin Immunoprecipitation (ChIp) (assay dependent) 4. Immuno-fluorescent staining (1/1,000~1/10,000). Fig.3 5. Immunohistochemistry (1/100-1/1,000). Fig.4 6. Dot blotting (1/1,000~1/5,000 dilution) 7. ELISA (indirect, 1/2,000~1/5,000 dilution) Not tested for other applications
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. Rad51 functionally and physically interacts with its paralogs Dmc1, Rad51B, 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.
Data Link	UniProtKB Q06609 (RAD51_HUMAN), UniProtKB Q08297 (RAD51_MOUSE) UniProtKBB5DF04 (B5DF04_RAT), UniProtKBA0A1L8FB28 (A0A1L8FB28_XENLA)

Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.

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Data Images: 70-012 Anti-Rad51 (Human) antibody, rabbit polyclonal

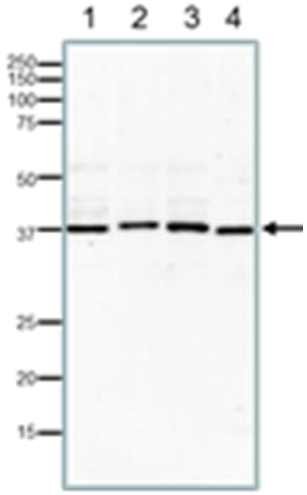

Fig.1 Western blotting of endogenous Rad51 proteins in crude extracts of varius animal cells.

15% SDS-PAGE was used. Blotting was done at 15 v overnight with wet system. The antibody was used at 1/1000 dilution.

1. MCF7 (human) cells. 40 µg
2. NIH3T3 (mouse) cells. 40 µg
3. CHO (hamster) cells. 40 µg
4, Xenopus laevis (frog) egg. 40µg

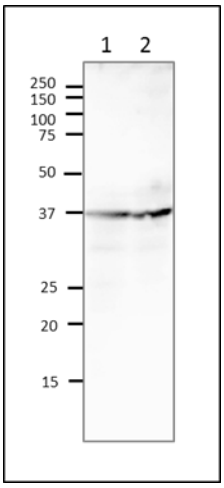

Fig.2. Western blot of endogenous Rad51 protein in rat cell lysate.

Proteins in the lysates were separated on SDS-PAGE (12.5 % gel) and blotted to PVDF membrane at 15 V overnight. The membrane was blocked with 3% skim milk. The anti-Rad51 antibody was used at 1/1000 dilution and as the second antibody, goat anti-rabbit IgG (ab97051) was used at 1/10000 dilution.

1. Human MCF7 cell lysate (80 µg)
2. Rat PC12 cell lysate (80 µg)

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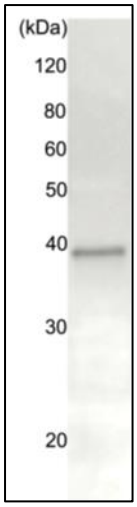

Fig.3. Immunoprecipitation of Rad51 protein from crude extract of HeLa cells by the anti-Rad51 antibody.

Anti-Rad51 antibody (20 μg) was incubated with 20μg of HeLa cell extract, and precipitated with 20 μg of proteinA-beads. The sample was dissociated from the precipitate by heating in SDS-sample buffer and analyzed by western blotting with anti-Rad51 antiserum (chicken, ab63802) at 1/1000 dilution. As second antibody, anti-chicken IgG antibody (rabbit) was used at 1/10000 dilution.

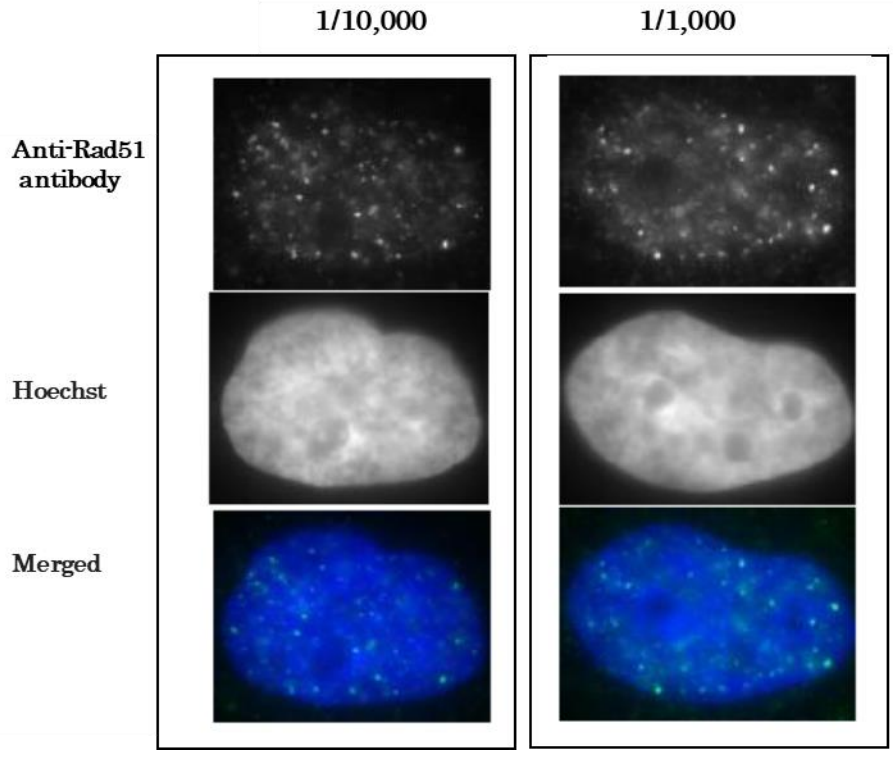

Fig.4. Detection of Rad51 foci formation after X-ray irradiation in human fibroblast cell line, GM0637.

Cells were irradiated by X-rays at 2 Gy,, grown for 1 hr, fixed with 4% paraformaldehyde in 1x PBS for 10 min, washed 3 times with PBS for 3 min, permealized by treatment with 0.5% Triton for 5 min,

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washed 3 times with PBS for 3 min, incubated with anti-Rad51 antibody for 30 min at 37℃, washed 3 times with PBS for 3 min, incubated with secondary antibody for 30 min at 37℃, washed 3 times with PBS for 3 min, stained with Hoechst for 1 min and mounted.

Anti-Rad51 antibody was used at 1/10,000 dilution (left panels) and 1/1,000 dilution (right panels). As the secondary antibody, anti-rabbit Alexa 488 was used at 1/10,000 dilution. The pictures were by courtesy of Prof. S. Tashiro and Dr. K. Kono at Hiroshima University.

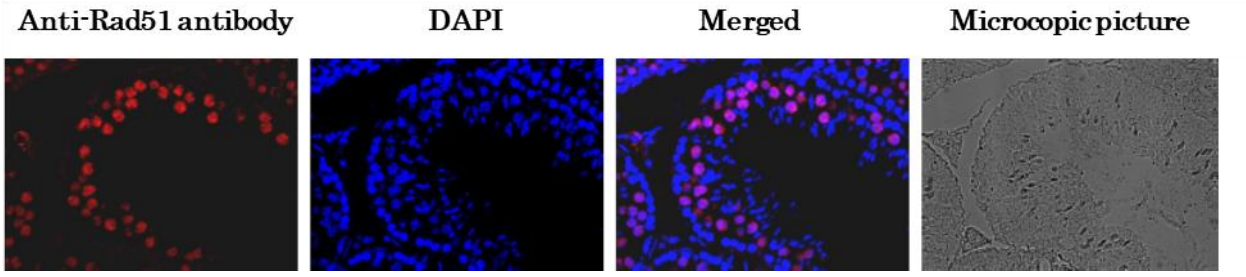

Fig.5. Immunohistological staining of Rad51 protein in mouse testis using anti-Rad51 antibody.
A section of formalin fixed and paraffin embedded mouse testis was treated with the anti-Rad51 antibody at 1/100 dilution after deparaffization and antigen retrieval. The 2nd antibody, anti-rabbit IgG conjugated with Alexa Fluor 647 (Abcam) was used at 1/1,000 dilution. DNA was stained with DAPI and the merged image was shown (Merged). The plain black and white microscopic picture of the same region was shown on the right.

Related Products：
10-001, 10-002 Rad51 Protein (Human), functional
10-003, 10-004 Rad52 protein (Human)
70-001 Anti-Rad51 (Human) antibody, rabbit serum
70-005 Anti-Rad51 (Human) antibody, chicken polyclonal (IgY)
70-015 Anti-Rad52 (Human) antibody, rabbit polyclonal

References: Please let us know any publications using this antibody.

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