

## Anti-Rad51(human ) antibody (rabbit serum)

Immuned Animal: Rabbit

Polyclonal antiserum

70-001 50  $\mu$ l, 70-002 250  $\mu$ l

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 (Ref.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 (Ref. 1).

The product was prepared by immunizing rabbit with full-size recombinant Rap51 protein expressed in *E. coli* and purified.

Using this anti-serum, Rad51 protein (37 kD) in the crude extract of HeLa cells was detected by Western blotting (Fig.1) and Rad51 foci formation induced by stalled replication and DNA-damage was detected by indirect immunofluorescence (Fig.2 & Ref.2). GFP-tagging of Rap51 protein at either N- or C- terminus inactivates the function of Rad51, and therefore, it cannot be used for the study of foci formation instead of the antibody. This antibody was successfully used for immunoprecipitation assay .

Usage

1) Western blotting (x 2,000~10,000 dilution).Highly specific.

2) Immuno-precipitation

3) Detection of foci formation by indirect immunofluorescence

Specification

Reacts with: Human, mouse Rad51 and chicken Rad51

Form: 0.09 % sodium azide added

Storage: 4 C

Reference

1.Friedberg EC, et al. DNA Repair and Mutagenesis 2<sup>nd</sup> ed., ASM Press

2. Tashiro S, et al., Rad51 accumulation at sites of DNA damage and in postreplicative chromatin. *J Cell Biol* 150: 283-291 (2000)

Fig. 1 Western blot analysis of Rap51 in HeLa cell extract.

Fig.1

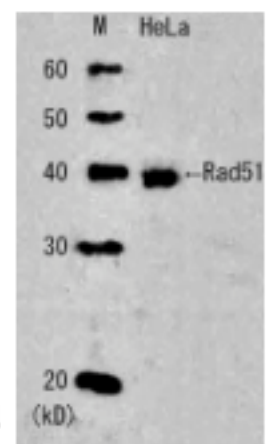


Fig.2 Detection of Rad51 foci formation induced by DNA damage.

Normal human diploid cells were irradiated by X-ray (0.5 Gy) and after incubation of 6 hr , the cells were fixed and immuno-stained by using anti-Rad51 serum( $\times$ 100 dilution) as the primary antibody and Alexa594 labeled anti-rabbit antibody as the secondary antibody.

(The picture was kindly provided by Prof.K.Suzuki, Medical school of Nagasaki Univ.)

Fig.2

