

**RAD50 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2233a****Specification****RAD50 Antibody - Product Information**

Application	E, WB, FC, IHC
Primary Accession	<a href="#">Q92878</a>
Reactivity	Human, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a
Calculated MW	154kDa KDa

**Description**

The protein encoded by this gene is highly similar to *Saccharomyces cerevisiae* Rad50, a protein involved in DNA double-strand break repair. This protein forms a complex with MRE11 and NBS1. The protein complex binds to DNA and displays numerous enzymatic activities that are required for nonhomologous joining of DNA ends. This protein, cooperating with its partners, is important for DNA double-strand break repair, cell cycle checkpoint activation, telomere maintenance, and meiotic recombination. Knockout studies of the mouse homolog suggest this gene is essential for cell growth and viability. Mutations in this gene are the cause of Nijmegen breakage syndrome-like disorder.

**Immunogen**

Purified recombinant fragment of human RAD50 (AA: 228-359) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**RAD50 Antibody - Additional Information**

**Gene ID** 10111

**Other Names**

DNA repair protein RAD50, hRAD50, 3.6.-., RAD50

**Dilution**

E~~1/10000

WB~~1/500 - 1/2000

FC~~1/200 - 1/400

IHC~~1/200 - 1/1000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

RAD50 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## **RAD50 Antibody - Protein Information**

**Name** RAD50

### **Function**

Component of the MRN complex, which plays a central role in double-strand break (DSB) repair, DNA recombination, maintenance of telomere integrity and meiosis. The complex possesses single-strand endonuclease activity and double-strand-specific 3'-5' exonuclease activity, which are provided by MRE11. RAD50 may be required to bind DNA ends and hold them in close proximity. This could facilitate searches for short or long regions of sequence homology in the recombining DNA templates, and may also stimulate the activity of DNA ligases and/or restrict the nuclease activity of MRE11 to prevent nucleolytic degradation past a given point (PubMed:<a href="http://www.uniprot.org/citations/11741547" target="\_blank">11741547</a>, PubMed:<a href="http://www.uniprot.org/citations/9590181" target="\_blank">9590181</a>, PubMed:<a href="http://www.uniprot.org/citations/9705271" target="\_blank">9705271</a>, PubMed:<a href="http://www.uniprot.org/citations/9651580" target="\_blank">9651580</a>). The complex may also be required for DNA damage signaling via activation of the ATM kinase (PubMed:<a href="http://www.uniprot.org/citations/15064416" target="\_blank">15064416</a>). In telomeres the MRN complex may modulate t-loop formation (PubMed:<a href="http://www.uniprot.org/citations/10888888" target="\_blank">10888888</a>).

### **Cellular Location**

Nucleus. Chromosome, telomere. Chromosome. Note=Localizes to discrete nuclear foci after treatment with genotoxic agents.

### **Tissue Location**

Expressed at very low level in most tissues, except in testis where it is expressed at higher level. Expressed in fibroblasts.

## **RAD50 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)