Technical Data Sheet

Purified Mouse Anti-Human Rad50

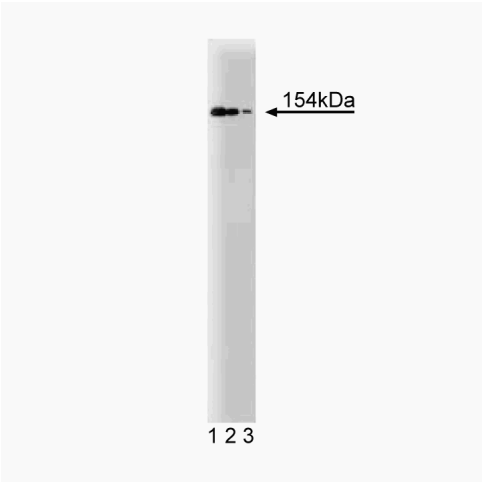
Product Information

Material Number:	**611010**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	13/RAD50
Immunogen:	Human RAD50 aa. 672-786
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	154 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

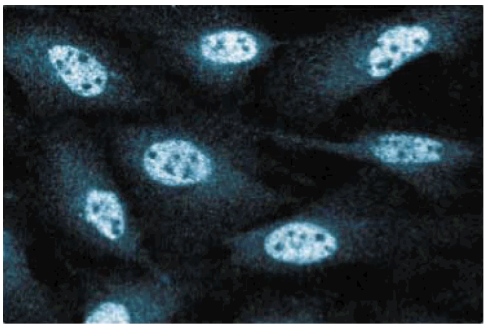
Description

DNA double-strand breaks (DSBs) are generated during intrinsic eukaryotic DNA recombination events such as assembly of antigen receptor genes, meiotic and miotic recombination. DNA DSB repair proteins are also required to repair breaks induced by extrinsic factors such as ionizing radiation and mutagenic chemicals. Originally identified in S. cerevisiae, Rad50 is one of a group of genes, designated as the Rad52 epistasis group, whose products mediate DSB repair. Many of these genes, including Rad50, are conserved in humans and are thought to have a similar function to their S. cerevisiae counterparts. In yeast, a multiprotein complex of Rad50, MRE11, and XRS2 has been implicated in the nucleocytic processing of DSBs. In humans, Rad50 and MRE11 complex with up to three additional proteins (95 kDa, 200 kDa, and 350 kDa). The 95 kDa species is thought to be human XRS2, although a separate report has identified it as Nibrin, the product of the gene mutated in Nijmegen breakage syndrome. The Rad50-MRE11-p95 complex possess endonuclease and 3' to 5' exonuclease activity. Thus, human Rad50 functions in a multiprotein complex to mediate the repair of DSBs in the human genome.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported literature.



Western blot analysis of RAD50 on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152). *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the mouse anti-human RAD50 antibody.*



Immunofluorescence staining of human endothelial cells.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Dolganov GM, Maser RS, Novikov A. Human Rad50 is physically associated with human Mre11: identification of a conserved multiprotein complex implicated in recombinational DNA repair. *Mol Cell Biol.* 1996; 16(9):4832-4841.(Biology)

Huber LJ, Yang TW, Sarkisian CJ, Master SR, Deng CX, Chodosh LA. Impaired DNA damage response in cells expressing an exon 11-deleted murine Brca1 variant that localizes to nuclear foci. 2001; 21(12):4005-4015.(Biology: Western blot)

Ohta K, Nicolas A, Furuse M, Nabetani A, Ogawa H, Shibata T. Mutations in the MRE11, RAD50, XRS2, and MRE2 genes alter chromatin configuration at meiotic DNA double-stranded break sites in premeiotic and meiotic cells. *Proc Natl Acad Sci U S A.* 1998; 95(2):646-651.(Biology)

Saitoh H, Pizzi MD, Wang J. Perturbation of SUMOlation enzyme Ubc9 by distinct domain within nucleoporin RanBP2/Nup358. *J Biol Chem.* 2002; 277(7):4755-4763.(Biology: Immunofluorescence)

Trujillo KM, Yuan SS, Lee EY, Sung P. Nuclease activities in a complex of human recombination and DNA repair factors Rad50, Mre11, and p95. *J Biol Chem.* 1998; 273(34):21447-21450.(Biology)