

Anti-Rad50 Monoclonal Antibody
Catalog # ABO14425**Specification****Anti-Rad50 Monoclonal Antibody - Product Information**

Application	WB, IF, ICC
Primary Accession	Q92878
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

Description

Anti-Rad50 Monoclonal Antibody . Tested in WB, ICC/IF applications. This antibody reacts with Human, Mouse, Rat.

Anti-Rad50 Monoclonal Antibody - Additional Information

Gene ID 10111

Other Names

DNA repair protein RAD50, hRAD50, 3.6.-.-, RAD50 {ECO:0000303|PubMed:8756642, ECO:0000312|HGNC:HGNC:9816}

Application Details

WB 1:500-1:2000
ICC/IF 1:50-1:200

Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen

A synthesized peptide derived from human Rad50 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 MRE11A.

Purification

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-Rad50 Monoclonal Antibody - Protein Information

Name RAD50 {ECO:0000303|PubMed:8756642, ECO:0000312|HGNC:HGNC:9816}

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 (PubMed:15064416, PubMed:21757780, PubMed:27889449, PubMed:28134932, PubMed:28867292, PubMed:9590181, PubMed:9651580, PubMed:9705271). The MRN complex is involved in the repair of DNA double-strand breaks (DSBs) via homologous recombination (HR), an error-free mechanism which primarily occurs during S and G2 phases (PubMed:15064416, PubMed:21757780, PubMed:27889449, PubMed:28867292, PubMed:9590181, PubMed:9651580, PubMed:9705271). The complex (1) mediates the end resection of damaged DNA, which generates proper single-stranded DNA, a key initial steps in HR, and is (2) required for the recruitment of other repair factors and efficient activation of ATM and ATR upon DNA damage (PubMed:15064416, PubMed:27889449, PubMed:28867292, PubMed:9590181, PubMed:9651580, PubMed:9705271). The MRN complex possesses single-strand endonuclease activity and double-strand-specific 3'-5' exonuclease activity, which are provided by MRE11, to initiate end resection, which is required for single-strand invasion and recombination (PubMed:11741547, PubMed:9590181, PubMed:9651580, PubMed:9705271). Within the complex, RAD50 is both required to bind DNA ends and hold them in close proximity and regulate the activity of MRE11 (PubMed:11741547, PubMed:12805565, PubMed:28134932). RAD50 provides an ATP-dependent control of MRE11 by positioning DNA ends into the MRE11 active site: ATP-binding induces a large structural change from an open form with accessible MRE11 nuclease sites into a closed form (By similarity). The MRN complex is also required for DNA damage signaling via activation of the ATM and ATR kinases: the nuclease activity of MRE11 is not required to activate ATM and ATR (PubMed:15064416, PubMed:15790808, PubMed:16622404). The MRN complex is also required for the processing of R-loops (PubMed:31537797). In telomeres the MRN complex may modulate t-loop formation (PubMed:10888888).

Cellular Location

Nucleus. Chromosome, telomere. Chromosome Note=Localizes to discrete nuclear foci after treatment with genotoxic agents (PubMed:10783165, PubMed:26215093). Localizes to DNA double-strand breaks (DSBs) (PubMed:15916964, PubMed:21757780)

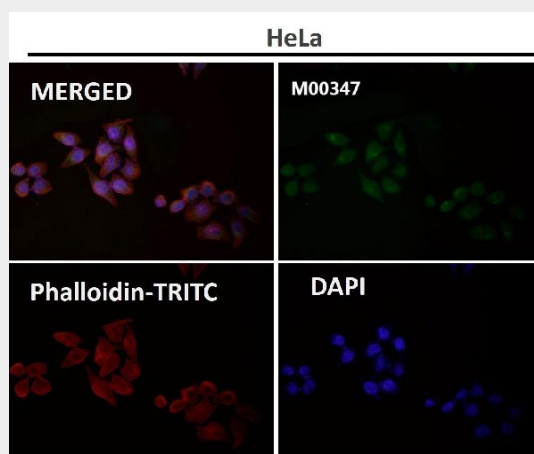
Tissue Location

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

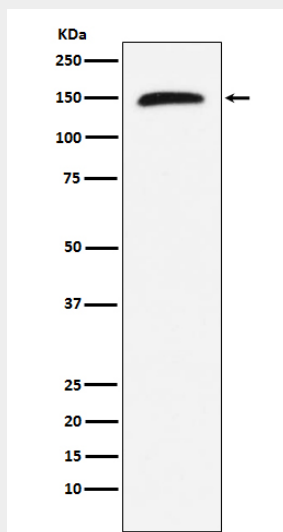
Anti-Rad50 Monoclonal Antibody - Protocols

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](#)

Anti-Rad50 Monoclonal Antibody - Images

Immunofluorescent analysis using the Antibody at 1:150 dilution.



Western blot analysis of Rad50 expression in Jurkat cell lysate;