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Mouse Rad50 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19224b

Product Information

Application	WB, E
Primary Accession	P70388
Reactivity	Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB40014
Calculated MW	153488
Antigen Region	911-938

Additional Information

Other Names	DNA repair protein RAD50, mRad50, 36--, Rad50
Target/Specificity	This Mouse Rad50 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 911-938 amino acids from the C-terminal region of mouse Rad50.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Rad50 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

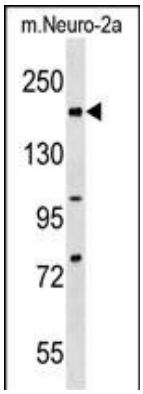
Name	Rad50
Function	Component of the MRN complex, which plays a central role in double-strand break (DSB) repair, DNA recombination, maintenance of telomere integrity and meiosis (PubMed:10377422, PubMed:12208847). The MRN complex is involved in the repair of DNA double-strand breaks (DSBs) via homologous recombination (HR), an error-free mechanism which primarily occurs during S and G2 phases (By similarity). 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 (By similarity). 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 (By similarity). Within the complex, RAD50 is both required to bind DNA ends and hold them in close proximity and regulate the activity of MRE11 (By similarity). 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 (By similarity). The MRN complex is also required for the processing of R-loops. In telomeres the MRN complex may modulate t-loop formation (By similarity).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q92878}. Chromosome, telomere {ECO:0000250|UniProtKB:Q92878}. Chromosome {ECO:0000250|UniProtKB:Q92878}. Note=Localizes to discrete nuclear foci after treatment with genotoxic agents. Localizes to DNA double-strand breaks (DSBs). {ECO:0000250|UniProtKB:Q92878}
Tissue Location	In adult, it is expressed at very low level in most tissues, except in heart, lung and aorta. Expressed at high level in testis.

Background

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. 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 MRE11A to prevent nucleolytic degradation past a given point. The complex may also be required for DNA damage signaling via activation of the ATM kinase. In telomeres the MRN complex may modulate t-loop formation (By similarity).

Images



Mouse Rad50 Antibody (C-term) (Cat. #AP19224b) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane).This demonstrates the Rad50 antibody detected the Rad50 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.