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RAD9A Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52778

Product Information

Application	WB, IP
Primary Accession	Q99638
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Calculated MW	42547

Additional Information

Gene ID	5883
Other Names	Cell cycle checkpoint control protein;Cell cycle checkpoint control protein RAD9A;DNA repair exonuclease rad9 homolog A;hRAD 9;hRAD9;Rad 9;RAD 9A;RAD9 (S pombe) homolog;RAD9 homolog A;RAD9 homolog;RAD9A;RAD9A_HUMAN.
Dilution	WB~~1:500 IP~~1:500
Format	Purified mouse monoclonal in PBS(pH 7.4)containing with 0.09% (W/V) sodium azide,50% glycerol.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	RAD9A
Function	Component of the 9-1-1 cell-cycle checkpoint response complex that plays a major role in DNA repair (PubMed:10713044, PubMed:17575048, PubMed:20545769, PubMed:21659603, PubMed:31135337). The 9-1-1 complex is recruited to DNA lesion upon damage by the RAD17- replication factor C (RFC) clamp loader complex (PubMed:21659603). Acts then as a sliding clamp platform on DNA for several proteins involved in long-patch base excision repair (LP-BER) (PubMed:21659603). The 9-1- 1 complex stimulates DNA polymerase beta (POLB) activity by increasing its affinity for the 3'-OH end of the primer-template and stabilizes POLB to those sites where LP-BER proceeds; endonuclease FEN1 cleavage activity on substrates with double, nick, or gap flaps of distinct sequences and lengths; and DNA ligase I (LIG1) on long-patch base excision repair substrates (PubMed:21659603). The 9-1-1 complex is necessary for the recruitment of RHNO1 to sites of double-stranded breaks (DSB) occurring during the S phase

(PubMed:21659603). RAD9A possesses 3'->5' double stranded DNA exonuclease activity (PubMed:10713044).

Cellular Location Nucleus.

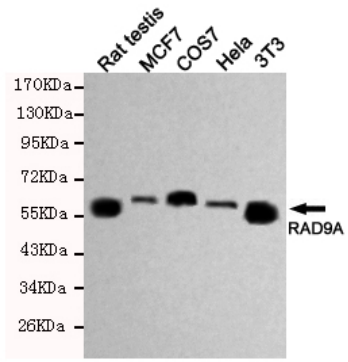
Background

Component of the 9-1-1 cell-cycle checkpoint response complex that plays a major role in DNA repair. The 9-1-1 complex is recruited to DNA lesion upon damage by the RAD17-replication factor C (RFC) clamp loader complex. Acts then as a sliding clamp platform on DNA for several proteins involved in long-patch base excision repair (LP-BER). The 9-1-1 complex stimulates DNA polymerase beta (POLB) activity by increasing its affinity for the 3'-OH end of the primer-template and stabilizes POLB to those sites where LP-BER proceeds; endonuclease FEN1 cleavage activity on substrates with double, nick, or gap flaps of distinct sequences and lengths; and DNA ligase I (LIG1) on long-patch base excision repair substrates. The 9-1-1 complex is necessary for the recruitment of RHNO1 to sites of double-stranded breaks (DSB) occurring during the S phase. RAD9A possesses 3'->5' double stranded DNA exonuclease activity. Its phosphorylation by PRKCD may be required for the formation of the 9-1-1 complex.

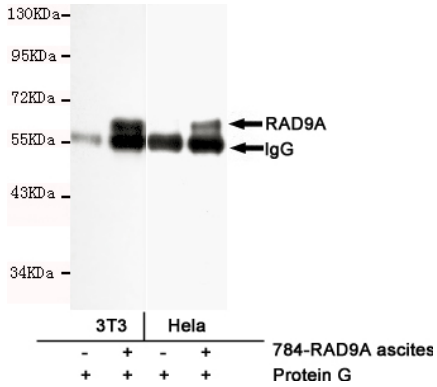
References

Lieberman H.B.,et al.Proc. Natl. Acad. Sci. U.S.A. 93:13890-13895(1996).
Ebert L.,et al.Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Roos-Mattjus P.,et al.J. Biol. Chem. 278:24428-24437(2003).

Images



Western blot detection of RAD9A in Hela,MCF7,3T3,COS7 and Rat testis cell lysates using RAD9A mouse mAb (1:500 diluted).Predicted band size:43KDa.Observed band size:55KDa.



Immunoprecipitation analysis of Hela and 3T3 cell lysates using RAD9A mouse mAb.