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Anti-BRCA2 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8645b

Product Information

Application	WB, E
Primary Accession	P51587
Reactivity	Human
Predicted	Human
Host	Mouse
Clonality	monoclonal
Isotype	IgG1,κ
Clone Names	1847CT631.23.58
Calculated MW	384230

Additional Information

Gene ID	675
Other Names	Breast cancer type 2 susceptibility protein, Fanconi anemia group D1 protein, BRCA2, FACD, FANCD1
Target/Specificity	This antibody is generated from a mouse immunized with a recombinant protein from human.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
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	Anti-BRCA2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BRCA2 (HGNC:1101)
Synonyms	FACD, FANCD1
Function	Involved in double-strand break repair and/or homologous recombination. Binds RAD51 and potentiates recombinational DNA repair by promoting assembly of RAD51 onto single-stranded DNA (ssDNA). Acts by targeting

	RAD51 to ssDNA over double-stranded DNA, enabling RAD51 to displace replication protein-A (RPA) from ssDNA and stabilizing RAD51- ssDNA filaments by blocking ATP hydrolysis. Part of a PALB2-scaffolded HR complex containing RAD51C and which is thought to play a role in DNA repair by HR. May participate in S phase checkpoint activation. Binds selectively to ssDNA, and to ssDNA in tailed duplexes and replication fork structures. May play a role in the extension step after strand invasion at replication-dependent DNA double-strand breaks; together with PALB2 is involved in both POLH localization at collapsed replication forks and DNA polymerization activity. In concert with NPM1, regulates centrosome duplication. Interacts with the TREX-2 complex (transcription and export complex 2) subunits PCID2 and SEM1, and is required to prevent R-loop-associated DNA damage and thus transcription-associated genomic instability. Silencing of BRCA2 promotes R-loop accumulation at actively transcribed genes in replicating and non-replicating cells, suggesting that BRCA2 mediates the control of R-loop associated genomic instability, independently of its known role in homologous recombination (PubMed:24896180).
Cellular Location	Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Colocalizes with ERCC5/XPG to nuclear foci following DNA replication stress
Tissue Location	Highest levels of expression in breast and thymus, with slightly lower levels in lung, ovary and spleen

Background

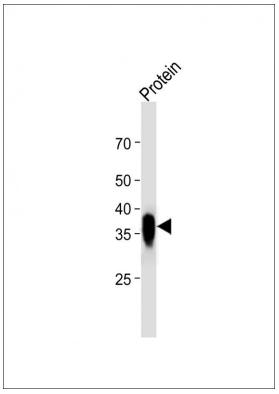
Involved in double-strand break repair and/or homologous recombination. Binds RAD51 and potentiates recombinational DNA repair by promoting assembly of RAD51 onto single-stranded DNA (ssDNA). Acts by targeting RAD51 to ssDNA over double-stranded DNA, enabling RAD51 to displace replication protein-A (RPA) from ssDNA and stabilizing RAD51-ssDNA filaments by blocking ATP hydrolysis. Part of a PALB2-scaffolded HR complex containing RAD51C and which is thought to play a role in DNA repair by HR. May participate in S phase checkpoint activation. Binds selectively to ssDNA, and to ssDNA in tailed duplexes and replication fork structures. May play a role in the extension step after strand invasion at replication-dependent DNA double-strand breaks; together with PALB2 is involved in both POLH localization at collapsed replication forks and DNA polymerization activity. In concert with NPM1, regulates centrosome duplication. Interacts with the TREX-2 complex (transcription and export complex 2) subunits PCID2 and DSS1, and is required to prevent R-loop- associated DNA damage and thus transcription-associated genomic instability. Silencing of BRCA2 promotes R-loop accumulation at actively transcribed genes in replicating and non-replicating cells, suggesting that BRCA2 mediates the control of R-loop associated genomic instability, independently of its known role in homologous recombination (PubMed:24896180).

References

Wooster R.,et al.Nature 378:789-792(1995).
Tavtigian S.V.,et al.Nat. Genet. 12:333-337(1996).
Dunham A.,et al.Nature 428:522-528(2004).
Ozcelik H.,et al.Nat. Genet. 16:17-18(1997).
Hussain S.,et al.Hum. Mol. Genet. 13:1241-1248(2004).

Images

All lanes: Anti-BRCA2 Antibody at 1:2000 dilution + Protein whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Mouse IgG, (H+L), Peroxidase



conjugated (ASP1613) at 1/8000 dilution. Observed band size: 36 KDa Blocking/Dilution buffer: 5% NFDM/TBST.