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RBBP8 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14029b

Product Information

Application	WB, E
Primary Accession	Q99708
Other Accession	NP_976037.1, NP_976036.1, NP_002885.1
Reactivity	Human
Predicted	Rat, Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34059
Calculated MW	101942
Antigen Region	763-792

Additional Information

Gene ID	5932
Other Names	DNA endonuclease RBBP8, 31--, CtBP-interacting protein, CtIP, Retinoblastoma-binding protein 8, RBBP-8, Retinoblastoma-interacting protein and myosin-like, RIM, Sporulation in the absence of SPO11 protein 2 homolog, SAE2, RBBP8, CTIP
Target/Specificity	This RBBP8 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 763-792 amino acids from the C-terminal region of human RBBP8.
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	RBBP8 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RBBP8 (HGNC:9891)

Function	Endonuclease that cooperates with the MRE11-RAD50-NBN (MRN) complex in DNA-end resection, the first step of double-strand break (DSB) repair through the homologous recombination (HR) pathway (PubMed:17965729, PubMed:19202191, PubMed:19759395, PubMed:20064462, PubMed:23273981, PubMed:26721387, PubMed:27814491, PubMed:27889449, PubMed:30787182, PubMed:31802118). HR is restricted to S and G2 phases of the cell cycle and preferentially repairs DSBs resulting from replication fork collapse (PubMed:17965729, PubMed:19202191, PubMed:23273981, PubMed:27814491, PubMed:27889449, PubMed:30787182). Key determinant of DSB repair pathway choice, as it commits cells to HR by preventing classical non-homologous end-joining (NHEJ) (PubMed:19202191). Specifically promotes the endonuclease activity of the MRN complex to clear DNA ends containing protein adducts: recruited to DSBs by NBN following phosphorylation by CDK1, and promotes the endonuclease activity of MRE11 to clear protein-DNA adducts and generate clean double-strand break ends (PubMed:27814491, PubMed:27889449, PubMed:30787182, PubMed:33836577). Functions downstream of the MRN complex and ATM, promotes ATR activation and its recruitment to DSBs in the S/G2 phase facilitating the generation of ssDNA (PubMed:16581787, PubMed:17965729, PubMed:19759395, PubMed:20064462). Component of the BRCA1-RBBP8 complex that regulates CHEK1 activation and controls cell cycle G2/M checkpoints on DNA damage (PubMed:15485915, PubMed:16818604). During immunoglobulin heavy chain class-switch recombination, promotes microhomology-mediated alternative end joining (A-NHEJ) and plays an essential role in chromosomal translocations (By similarity). Binds preferentially to DNA Y-junctions and to DNA substrates with blocked ends and promotes intermolecular DNA bridging (PubMed:30601117).
Cellular Location	Nucleus. Chromosome Note=Associates with sites of DNA damage in S/G2 phase (PubMed:10764811, PubMed:25349192). Recruited to DSBs by the MRE11- RAD50-NBN (MRN) complex following phosphorylation by CDK1, which promotes interaction with NBN (PubMed:27814491, PubMed:27889449, PubMed:33836577). Ubiquitinated RBBP8 binds to chromatin following DNA damage (PubMed:16818604).
Tissue Location	Expressed in ER-positive breast cancer lines, but tends to be down-regulated ER-negative cells (at protein level)

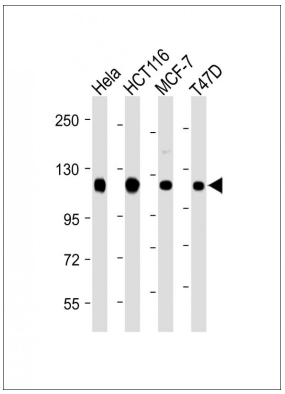
Background

The protein encoded by this gene is a ubiquitously expressed nuclear protein. It is found among several proteins that bind directly to retinoblastoma protein, which regulates cell proliferation. This protein complexes with transcriptional co-repressor CTBP. It is also associated with BRCA1 and is thought to modulate the functions of BRCA1 in transcriptional regulation, DNA repair, and/or cell cycle checkpoint control. It is suggested that this gene may itself be a tumor suppressor acting in the same pathway as BRCA1. Three transcript variants encoding two different isoforms have been found for this gene. More transcript variants exist, but their full-length natures have not been determined.

References

Kaidi, A., et al. Science 329(5997):1348-1353(2010)
Thye, T., et al. Nat. Genet. 42(9):739-741(2010)
Notaridou, M., et al. Int. J. Cancer (2010) In press :
Yasuno, K., et al. Nat. Genet. 42(5):420-425(2010)
Zhao, J., et al. BMC Med. Genet. 11, 96 (2010) :

Images



All lanes : Anti-RBBP8 Antibody (C-term) at 1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: HCT116 whole cell lysate Lane 3: MCF-7 whole cell lysate Lane 4: T47D whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 102 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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