

**RBBP8 Antibody**  
**Catalog # ASC11133****Specification****RBBP8 Antibody - Product Information**

Application	WB, IHC-P, IF, E
Primary Accession	<a href="#">Q99708</a>
Other Accession	<a href="#">NP_976037</a> , <a href="#">42718017</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	RBBP8 antibody can be used for detection of RBBP8 by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.

**RBBP8 Antibody - Additional Information**

Gene ID	5932
<b>Target/Specificity</b>	
RBBP8;	

**Reconstitution & Storage**

RBBP8 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

RBBP8 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**RBBP8 Antibody - Protein Information**

**Name** RBBP8

**Synonyms** CTIP

**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:<a href="http://www.uniprot.org/citations/17965729" target="\_blank">17965729</a>, PubMed:<a href="http://www.uniprot.org/citations/19202191" target="\_blank">19202191</a>, PubMed:<a href="http://www.uniprot.org/citations/19759395" target="\_blank">19759395</a>, PubMed:<a href="http://www.uniprot.org/citations/20064462" target="\_blank">20064462</a>, PubMed:<a href="http://www.uniprot.org/citations/23273981" target="\_blank">23273981</a>, PubMed:<a href="http://www.uniprot.org/citations/26721387" target="\_blank">26721387</a>, PubMed:<a href="http://www.uniprot.org/citations/27814491" target="\_blank">27814491</a>)

target="\_blank">27814491</a>, PubMed:<a href="http://www.uniprot.org/citations/27889449" target="\_blank">27889449</a>, PubMed:<a href="http://www.uniprot.org/citations/30787182" target="\_blank">30787182</a>). HR is restricted to S and G2 phases of the cell cycle and preferentially repairs DSBs resulting from replication fork collapse (PubMed:<a href="http://www.uniprot.org/citations/17965729" target="\_blank">17965729</a>, PubMed:<a href="http://www.uniprot.org/citations/19202191" target="\_blank">19202191</a>, PubMed:<a href="http://www.uniprot.org/citations/23273981" target="\_blank">23273981</a>, PubMed:<a href="http://www.uniprot.org/citations/27814491" target="\_blank">27814491</a>, PubMed:<a href="http://www.uniprot.org/citations/27889449" target="\_blank">27889449</a>, PubMed:<a href="http://www.uniprot.org/citations/30787182" target="\_blank">30787182</a>). Key determinant of DSB repair pathway choice, as it commits cells to HR by preventing classical non-homologous end-joining (NHEJ) (PubMed:<a href="http://www.uniprot.org/citations/19202191" target="\_blank">19202191</a>). 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:<a href="http://www.uniprot.org/citations/27814491" target="\_blank">27814491</a>, PubMed:<a href="http://www.uniprot.org/citations/27889449" target="\_blank">27889449</a>, PubMed:<a href="http://www.uniprot.org/citations/30787182" target="\_blank">30787182</a>, PubMed:<a href="http://www.uniprot.org/citations/33836577" target="\_blank">33836577</a>). 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:<a href="http://www.uniprot.org/citations/16581787" target="\_blank">16581787</a>, PubMed:<a href="http://www.uniprot.org/citations/17965729" target="\_blank">17965729</a>, PubMed:<a href="http://www.uniprot.org/citations/19759395" target="\_blank">19759395</a>, PubMed:<a href="http://www.uniprot.org/citations/20064462" target="\_blank">20064462</a>). Component of the BRCA1-RBBP8 complex that regulates CHEK1 activation and controls cell cycle G2/M checkpoints on DNA damage (PubMed:<a href="http://www.uniprot.org/citations/15485915" target="\_blank">15485915</a>, PubMed:<a href="http://www.uniprot.org/citations/16818604" target="\_blank">16818604</a>). 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:<a href="http://www.uniprot.org/citations/30601117" target="\_blank">30601117</a>).

### 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

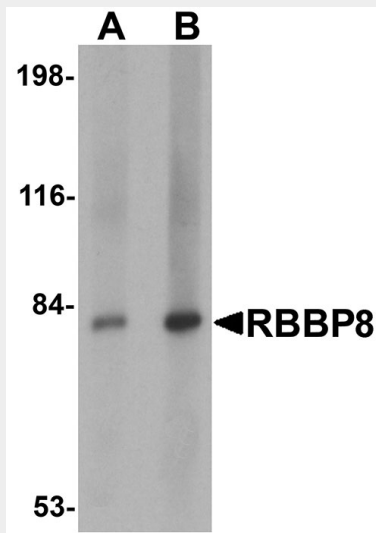
Expressed in ER-positive breast cancer lines, but tends to be down-regulated ER-negative cells (at protein level)

### RBBP8 Antibody - Protocols

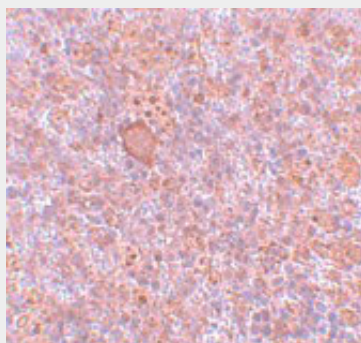
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)

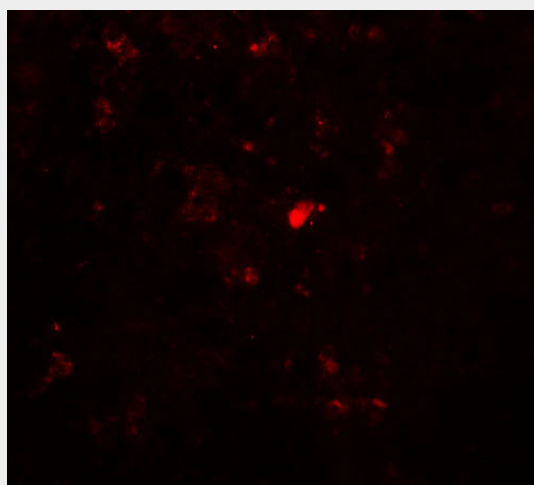
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**RBBP8 Antibody - Images**

Western blot analysis of RBBP8 in mouse spleen tissue lysate with RBBP8 antibody at (A) 1 and (B) 2  $\mu$ g/mL.



Immunohistochemistry of RBBP8 in rat spleen tissue with RBBP8 antibody at 5  $\mu$ g/mL.



Immunofluorescence of RBBP8 in rat spleen tissue with RBBP8 antibody at 20  $\mu$ g/mL.

## **RBBP8 Antibody - Background**

RBBP8 Antibody: RBBP8, also known as CtBP (carboxy-terminal binding protein) interacting protein (CTIP), was characterized for its role in transcription as a cofactor for the transcriptional repressor CtBP, and also as a binding partner for other proteins including the cell cycle regulators retinoblastoma protein (Rb) and breast cancer 1 (BRCA1). It is ubiquitously expressed and localizes to the nucleus. RBBP8 is thought to modulate the functions in cell proliferation, transcriptional regulation and DNA repair. RBBP8 also plays a central role in the cell cycle checkpoint response to DNA double-stranded breaks (DSBs), with new evidence demonstrating that it controls the choice of DSB repair pathway.

## **RBBP8 Antibody - References**

Yu X, Wu LC, Bowcock AM, et al. The C-terminal (BRCT) domains of BRCA1 interact in vivo with CtIP, a protein implicated in the CtBP pathway of transcriptional repression. *J. Biol. Chem.*1998; 273:25388-92.

Liu F and Lee WH. CtIP activates its own and cyclin D1 promoters via the E2F/RB pathway during G1/S progression. *Mol. Cell Biol.*2006; 26:3124-34.

Sterner JM, Dew-Knight S, Musahl C, et al. Negative regulation of DNA replication by the retinoblastoma protein is mediated by its association with MCM7. *Mol. Cell Biol.*1998; 18:2748-57.

Wu G and Lee WH. CtIP, a multivalent adaptor connecting transcriptional regulation, checkpoint control and tumor suppression. *Cell Cycle*2006; 5:1592-6.