

**BRCA1 Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP51017****Specification**

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**BRCA1 Antibody - Product Information**

Application	WB, IHC-P, E
Primary Accession	<a href="#">P38398</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	220 KDa

**BRCA1 Antibody - Additional Information****Gene ID** 672**Other Names**

Breast cancer type 1 susceptibility protein, 632-, RING finger protein 53, BRCA1, RNF53

**Dilution**

WB~~1:1000

IHC-P~~N/A

E~~N/A

**Format**

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

**Storage**

Store at -20 °C. Stable for 12 months from date of receipt

**BRCA1 Antibody - Protein Information****Name** BRCA1**Synonyms** RNF53**Function**

E3 ubiquitin-protein ligase that specifically mediates the formation of 'Lys-6'-linked polyubiquitin chains and plays a central role in DNA repair by facilitating cellular responses to DNA damage (PubMed: [10500182](http://www.uniprot.org/citations/10500182), PubMed: [12887909](http://www.uniprot.org/citations/12887909), PubMed: [12890688](http://www.uniprot.org/citations/12890688), PubMed: [14976165](http://www.uniprot.org/citations/14976165), PubMed: [16818604](http://www.uniprot.org/citations/16818604), PubMed: [17525340](http://www.uniprot.org/citations/17525340), PubMed: [19261748](http://www.uniprot.org/citations/19261748)). It is unclear whether it also mediates the formation of other types of polyubiquitin chains

(PubMed:<a href="http://www.uniprot.org/citations/12890688" target="\_blank">12890688</a>). The BRCA1-BARD1 heterodimer coordinates a diverse range of cellular pathways such as DNA damage repair, ubiquitination and transcriptional regulation to maintain genomic stability (PubMed:<a href="http://www.uniprot.org/citations/12890688" target="\_blank">12890688</a>, PubMed:<a href="http://www.uniprot.org/citations/14976165" target="\_blank">14976165</a>, PubMed:<a href="http://www.uniprot.org/citations/20351172" target="\_blank">20351172</a>). Regulates centrosomal microtubule nucleation (PubMed:<a href="http://www.uniprot.org/citations/18056443" target="\_blank">18056443</a>). Required for appropriate cell cycle arrests after ionizing irradiation in both the S-phase and the G2 phase of the cell cycle (PubMed:<a href="http://www.uniprot.org/citations/10724175" target="\_blank">10724175</a>, PubMed:<a href="http://www.uniprot.org/citations/11836499" target="\_blank">11836499</a>, PubMed:<a href="http://www.uniprot.org/citations/12183412" target="\_blank">12183412</a>, PubMed:<a href="http://www.uniprot.org/citations/19261748" target="\_blank">19261748</a>). Required for FANCD2 targeting to sites of DNA damage (PubMed:<a href="http://www.uniprot.org/citations/12887909" target="\_blank">12887909</a>). Inhibits lipid synthesis by binding to inactive phosphorylated ACACA and preventing its dephosphorylation (PubMed:<a href="http://www.uniprot.org/citations/16326698" target="\_blank">16326698</a>). Contributes to homologous recombination repair (HRR) via its direct interaction with PALB2, fine-tunes recombinational repair partly through its modulatory role in the PALB2-dependent loading of BRCA2-RAD51 repair machinery at DNA breaks (PubMed:<a href="http://www.uniprot.org/citations/19369211" target="\_blank">19369211</a>). Component of the BRCA1-RBBP8 complex which regulates CHEK1 activation and controls cell cycle G2/M checkpoints on DNA damage via BRCA1-mediated ubiquitination of RBBP8 (PubMed:<a href="http://www.uniprot.org/citations/16818604" target="\_blank">16818604</a>). Acts as a transcriptional activator (PubMed:<a href="http://www.uniprot.org/citations/20160719" target="\_blank">20160719</a>).

#### **Cellular Location**

Nucleus. Chromosome. Cytoplasm. Note=Localizes at sites of DNA damage at double-strand breaks (DSBs); recruitment to DNA damage sites is mediated by ABRAXAS1 and the BRCA1-A complex (PubMed:26778126) Translocated to the cytoplasm during UV-induced apoptosis (PubMed:20160719). [Isoform 5]: Cytoplasm

#### **Tissue Location**

Isoform 1 and isoform 3 are widely expressed. Isoform 3 is reduced or absent in several breast and ovarian cancer cell lines

### **BRCA1 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](#)

### **BRCA1 Antibody - Images**

### **BRCA1 Antibody - Background**

E3 ubiquitin-protein ligase that specifically mediates the formation of 'Lys-6'-linked polyubiquitin chains and plays a central role in DNA repair by facilitating cellular responses to DNA damage. It is

unclear whether it also mediates the formation of other types of polyubiquitin chains. The E3 ubiquitin-protein ligase activity is required for its tumor suppressor function. The BRCA1-BARD1 heterodimer coordinates a diverse range of cellular pathways such as DNA damage repair, ubiquitination and transcriptional regulation to maintain genomic stability. Regulates centrosomal microtubule nucleation. Required for normal cell cycle progression from G2 to mitosis. Required for appropriate cell cycle arrests after ionizing irradiation in both the S-phase and the G2 phase of the cell cycle. Involved in transcriptional regulation of P21 in response to DNA damage. Required for FANCD2 targeting to sites of DNA damage. May function as a transcriptional regulator. Inhibits lipid synthesis by binding to inactive phosphorylated ACACA and preventing its dephosphorylation. Contributes to homologous recombination repair (HRR) via its direct interaction with PALB2, fine-tunes recombinational repair partly through its modulatory role in the PALB2-dependent loading of BRCA2-RAD51 repair machinery at DNA breaks. Component of the BRCA1-RBBP8 complex which regulates CHEK1 activation and controls cell cycle G2/M checkpoints on DNA damage via BRCA1-mediated ubiquitination of RBBP8.

### **BRCA1 Antibody - References**

Miki Y.,et al.Science 266:66-71(1994).  
Smith T.M.,et al.Genome Res. 6:1029-1049(1996).  
Wilson C.A.,et al.Oncogene 14:1-16(1997).  
Holt J.T.,et al.Submitted (MAY-1997) to the EMBL/GenBank/DDBJ databases.  
Raymond C.K.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.