

**BRCA1 Antibody (aa341-748, clone 8F7)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS13613****Specification**

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**BRCA1 Antibody (aa341-748, clone 8F7) - Product Information**

Application	IHC
Primary Accession	<a href="#">P38398</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	208kDa KDa

**BRCA1 Antibody (aa341-748, clone 8F7) - Additional Information****Gene ID** 672**Other Names**

Breast cancer type 1 susceptibility protein, 6.3.2.-, RING finger protein 53, BRCA1, RNF53

**Target/Specificity**

Protein fragment expressed in E. coli corresponding to amino acids 341-748.

**Reconstitution & Storage**

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

**Precautions**

BRCA1 Antibody (aa341-748, clone 8F7) is for research use only and not for use in diagnostic or therapeutic procedures.

**BRCA1 Antibody (aa341-748, clone 8F7) - 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: [12890688](http://www.uniprot.org/citations/12890688)).

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

#### Volume

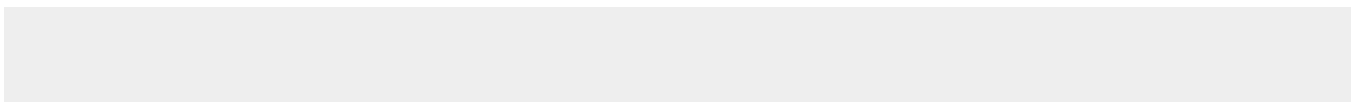
50 µl

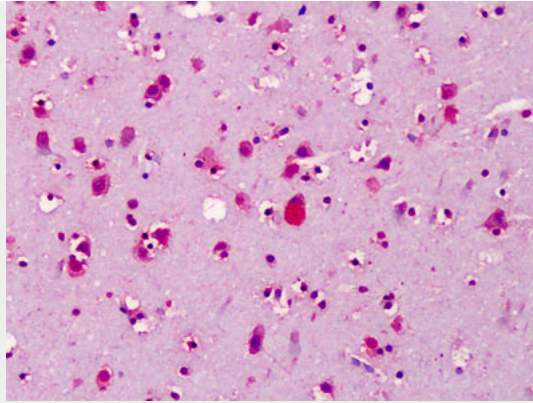
#### BRCA1 Antibody (aa341-748, clone 8F7) - Protocols

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

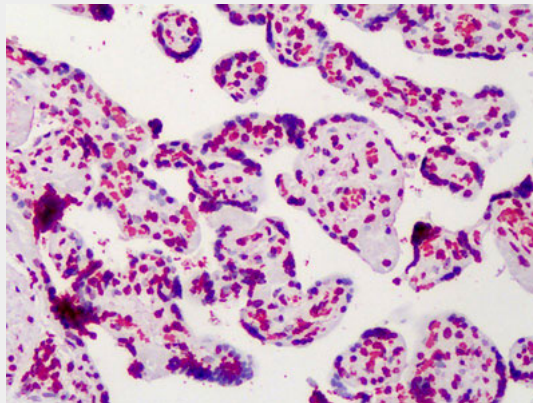
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### BRCA1 Antibody (aa341-748, clone 8F7) - Images





Anti-BRCA1 antibody IHC of human brain.



Anti-BRCA1 antibody IHC of human placenta.

#### **BRCA1 Antibody (aa341-748, clone 8F7) - 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 (aa341-748, clone 8F7) - 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.