

**Anti-BRCA1 Picoband Antibody**  
Catalog # ABO10002

**Specification**

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**Anti-BRCA1 Picoband Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P38398</a>
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Breast cancer type 1 susceptibility protein(BRCA1) detection. Tested with WB in Human.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-BRCA1 Picoband Antibody - Additional Information**

**Gene ID** 672

**Other Names**

Breast cancer type 1 susceptibility protein, 2.3.2.27, RING finger protein 53, RING-type E3 ubiquitin transferase BRCA1, BRCA1, RNF53

**Calculated MW**

207721 MW KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml, Human<br>

**Subcellular Localization**

Nucleus . Chromosome . Cytoplasm . Localizes at sites of DNA damage at double-strand breaks (DSBs); recruitment to DNA damage sites is mediated by the BRCA1-A complex. Translocated to the cytoplasm during UV-induced apoptosis. .

**Tissue Specificity**

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

**Protein Name**

Breast cancer type 1 susceptibility protein

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>.

**Immunogen**

E.coli-derived human BRCA1 recombinant protein (Position: T1681-E1781). Human BRCA1 shares

73.3% and 74.3% amino acid (aa) sequence identity with mouse and rat BRCA1, respectively.

#### Purification

Immunogen affinity purified.

#### Cross Reactivity

No cross reactivity with other proteins.

#### Storage

**At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.**

### Anti-BRCA1 Picoband 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:<a href="http://www.uniprot.org/citations/10500182" target="\_blank">10500182</a>, PubMed:<a href="http://www.uniprot.org/citations/12887909" target="\_blank">12887909</a>, 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/16818604" target="\_blank">16818604</a>, PubMed:<a href="http://www.uniprot.org/citations/17525340" target="\_blank">17525340</a>, PubMed:<a href="http://www.uniprot.org/citations/19261748" target="\_blank">19261748</a>). 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>).

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

### Anti-BRCA1 Picoband 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](#)

### Anti-BRCA1 Picoband Antibody - Images

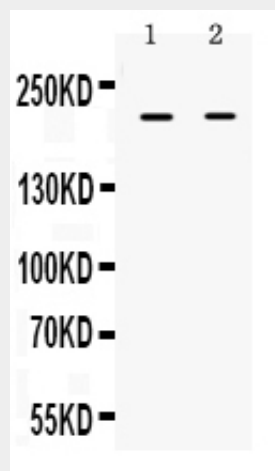


Figure 1. Western blot analysis of BRCA1 using anti- BRCA1 antibody (ABO10002). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: HELA whole cell lysates, Lane 2: SKOV3 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-BRCA1 antigen affinity purified polyclonal antibody (Catalog # ABO10002) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for BRCA1 at approximately 207KD. The expected band size for BRCA1 is at 207KD.

## **Anti-BRCA1 Picoband Antibody - Background**

BRCA1, mapped to 17q21.3, is also known as BRCC1. This gene encodes a nuclear phosphoprotein that plays a role in maintaining genomic stability, and it also acts as a tumor suppressor. The encoded protein combines with other tumor suppressors, DNA damage sensors, and signal transducers to form a large multi-subunit protein complex known as the BRCA1-associated genome surveillance complex (BASC). BRCA1 product associates with RNA polymerase II, and through the C-terminal domain, also interacts with histone deacetylase complexes. This protein thus plays a role in transcription, DNA repair of double-stranded breaks, and recombination. In addition to it, BRCA1 may normally serve as a negative regulator of mammary epithelial cell growth and that this function is compromised in breast cancer either by direct mutation or by alterations in gene expression.