

## Rabbit anti-Human, Rat BRCA1 Polyclonal Antibody | anti-BRCA1 antibody

Phospho-BRCA1 (Ser1423) Antibody

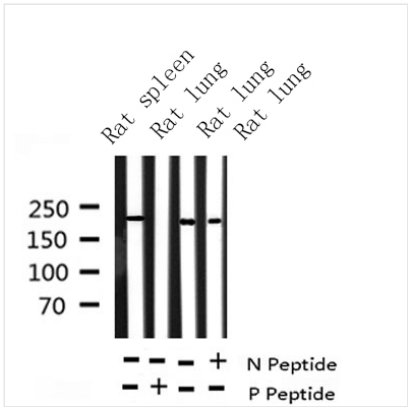
| CATALOG # | HOST   | REACTIVITY | APPLICATIONS                              |
|-----------|--------|------------|-------------------------------------------|
| AAA321610 | Rabbit | Human, Rat | ELISA, Immunohistochemistry, Western Blot |

### PRODUCT SYNONYMS

BRCA1; Polyclonal Antibody; Phospho-BRCA1 (Ser1423) Antibody; BRCA 1; BRCA1 DNA repair associated; BRCA1/BRCA2 containing complex subunit 1; BRCA1/BRCA2-containing complex; subunit 1; BRCA1\_HUMAN; BRCAI; BRCC 1; BRCC1; Breast and ovarian cancer susceptibility protein 1; Breast Cancer 1; Breast Cancer 1 Early Onset; Breast cancer type 1 susceptibility protein; BROVCA1; FANCS; IRIS; PNCA4; PPP1R53; Protein phosphatase 1 regulatory subunit 53; PSCP; RING finger protein 53; RNF53; anti-BRCA1 antibody

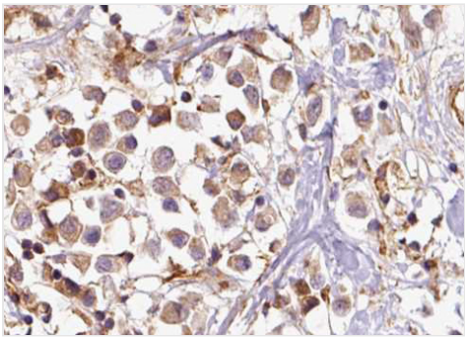
### PRODUCT SPECIFICATIONS

|                                                 |                                                                                                                                                             |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                                            | Rabbit                                                                                                                                                      |
| Reactivity                                      | Human, Rat                                                                                                                                                  |
| Clonality                                       | Polyclonal                                                                                                                                                  |
| Isotype                                         | IgG                                                                                                                                                         |
| Specificity                                     | Phospho-BRCA1 (Ser1423) antibody detects endogenous levels of BRCA1 only when phosphorylated at Serine 1423                                                 |
| Purity/Purification                             | From purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.                     |
| Form/Format                                     | Liquid<br>Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.                                                               |
| Concentration                                   | 1mg/ml (varies by lot)                                                                                                                                      |
| Sequence Length                                 | 1863                                                                                                                                                        |
| Applicable Applications for anti-BRCA1 antibody | ELISA, IHC (Immunohistochemistry), WB (Western Blot)                                                                                                        |
| Immunogen                                       | A synthesized peptide derived from human BRCA1 around the phosphorylation site of Serine 1423                                                               |
| Subcellular Location                            | Cytoplasm; Nucleus. Localizes at sites of DNA damage at double-strand breaks (DSBs) and recruitment to DNA damage sites is mediated by the BRCA1-A complex. |
| Tissue Specificity                              | Isoform 1 and isoform 3 are widely expressed. Isoform 3 is reduced or absent in several breast and ovarian cancer cell lines.                               |
| Predicted Cross Reactivity                      | <b>Pig, Bovine, Dog, Chicken</b>                                                                                                                            |
| Similarity                                      | Pig (100%), Bovine (90%), Dog (91%), Chicken (88%)                                                                                                          |
| Conjugation                                     | Unconjugated                                                                                                                                                |
| Epitope                                         | Phospho Ser1423                                                                                                                                             |
| Preparation and Storage                         | Store at -20 degree C. Stable for 12 months from date of receipt.                                                                                           |



**WB (Western Blot)**

Western blot analysis of BRCA1 phosphorylation expression in whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



**IHC (Immunohistochemistry)**

AAA321610 at 1/100 staining human breast carcinoma tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

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| Related Product Information for anti-BRCA1 antibody | <p>Description: This gene encodes a nuclear phosphoprotein that plays a role in maintaining genomic stability and 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 BASC for BRCA1-associated genome surveillance complex.</p> <p>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. 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. Acts as a transcriptional activator (PubMed:20160719).</p> <p>Subunit Structure: Heterodimer with BARD1 (PubMed:11573085, PubMed:12890688, PubMed:14976165). Part of the BRCA1-associated genome surveillance complex (BASC), which contains BRCA1, MSH2, MSH6, MLH1, ATM, BLM, PMS2 and the MRE11-RAD50-NBN protein (MRN) complex (PubMed:10783165). This association could be a dynamic process changing throughout the cell cycle and within subnuclear domains (PubMed:10783165).</p> <p>Component of the BRCA1-A complex, at least composed of BRCA1, BARD1, UIMC1/RAP80, ABRAXAS1, BRCC3/BRCC36, BABAM2 and BABAM1/NBA1 (PubMed:19261746, PubMed:19261748, PubMed:19261749, PubMed:20351172). Interacts (via the BRCT domains) with ABRAXAS1 (phosphorylated form); this is important for recruitment to sites of DNA damage (PubMed:17525340, PubMed:17643121, PubMed:17643122, PubMed:24316840, PubMed:26778126). Can form a heterotetramer with two molecules of ABRAXAS1 (phosphorylated form) (PubMed:26778126). Component of the BRCA1-RBBP8 complex (PubMed:16101277). Interacts (via the BRCT domains) with RBBP8 ('Ser-327' phosphorylated form); the interaction ubiquitinates RBBP8, regulates CHEK1 activation, and involves RBBP8 in BRCA1-dependent G2/M checkpoint control on DNA damage (PubMed:16818604, PubMed:9811458). Associates with RNA polymerase II holoenzyme (PubMed:9662397). Interacts with SMC1A, COBRA1, DCLRE1C, CLSPN (PubMed:11877377, PubMed:15096610, PubMed:15456891). Interacts with CHEK1, CHEK2, BAP1, BRCC3, AURKA, UBXN1 and PCLAF (PubMed:10724175, PubMed:11836499, PubMed:14636569, PubMed:14990569, PubMed:20351172, PubMed:21673012). Interacts (via BRCT domains) with BRIP1 (phosphorylated form) (PubMed:11301010, PubMed:15133502, PubMed:21473589). Interacts with FANCD2 (ubiquitinated form) (PubMed:11239454). Interacts with H2AFX (phosphorylated on 'Ser-140') (PubMed:12419185). Interacts (via the BRCT domains) with ACACA (phosphorylated form); the interaction prevents dephosphorylation of ACACA (PubMed:12360400, PubMed:16326698, PubMed:16698035, PubMed:18452305). Part of a BRCA complex containing BRCA1, BRCA2 and PALB2 (PubMed:19369211). Interacts directly with PALB2; the interaction is essential for its function in HRR (PubMed:19369211, PubMed:28319063). Interacts directly with BRCA2; the interaction occurs only in the presence of PALB2 which serves as the bridging protein (PubMed:19369211). Interacts (via the BRCT domains) with LMO4; the interaction represses the transcriptional activity of BRCA1 (PubMed:11751867). Interacts (via the BRCT domains) with CCAR2 (via N-terminus); the interaction represses the transcriptional activator activity of BRCA1 (PubMed:20160719). Interacts with EXD2 (PubMed:26807646). Interacts (via C-terminus) with DHX9; this interaction is direct and links BRCA1 to the RNA polymerase II holoenzyme (PubMed:9662397).</p> <p>Post-translational Modifications: Phosphorylation at Ser-308 by AURKA is required for normal cell cycle progression from G2 to mitosis. Phosphorylated in response to IR, UV, and various stimuli that cause checkpoint activation, probably by ATM or ATR. Phosphorylation at Ser-988 by CHEK2 regulates mitotic spindle assembly. Autoubiquitinated, undergoes 'Lys-6'-linked polyubiquitination. 'Lys-6'-linked polyubiquitination does not promote degradation.</p> <p>Similarity: The BRCT domains recognize and bind phosphorylated pSXXF motif on proteins. The interaction with the phosphorylated pSXXF motif of ABRAXAS1, recruits BRCA1 at DNA damage sites. The RING-type zinc finger domain interacts with BAP1.</p> |
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NCBI AND UNIPROT INFORMATION

|             |         |
|-------------|---------|
| NCBI GI #   | 6552299 |
| NCBI GeneID | 672     |

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|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NCBI Accession #                 | <a href="#">NP_009225.1</a>                                                                                                                                                                           |
| NCBI GenBank Nucleotide #        | <a href="#">NM_007294.3</a>                                                                                                                                                                           |
| UniProt Accession #              | <a href="#">P38398</a> ; <a href="#">O15129</a> ; <a href="#">Q1RMC1</a> ; <a href="#">Q3LRJ0</a> ; <a href="#">Q3LRJ6</a> ; <a href="#">Q6IN79</a> ; <a href="#">Q7KYU9</a> ; <a href="#">E9PFZ0</a> |
| Molecular Weight                 | Observed: 207 kDa<br>Predicted: 208 kDa                                                                                                                                                               |
| NCBI Official Full Name          | breast cancer type 1 susceptibility protein isoform 1                                                                                                                                                 |
| NCBI Official Synonym Full Names | BRCA1, DNA repair associated                                                                                                                                                                          |
| NCBI Official Symbol             | BRCA1                                                                                                                                                                                                 |
| NCBI Official Synonym Symbols    | IRIS; PSCP; BRCAI; BRCC1; FANCS; PNCA4; RNF53; BROVCA1; PPP1R53                                                                                                                                       |
| NCBI Protein Information         | breast cancer type 1 susceptibility protein                                                                                                                                                           |
| UniProt Protein Name             | Breast cancer type 1 susceptibility protein                                                                                                                                                           |
| UniProt Gene Name                | <b>BRCA1</b>                                                                                                                                                                                          |
| UniProt Synonym Gene Names       | RNF53                                                                                                                                                                                                 |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/brca1-antibody-immunohistochemistry-western-blot-elisa/321610>