

# Anti-BRCA1 Antibody

Mouse Monoclonal Antibody

Catalog # AH13526

## Product Information

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<b>Application</b>	IHC-P, IF, FC
<b>Primary Accession</b>	<a href="#">P38398</a>
<b>Other Accession</b>	<a href="#">194143</a>
<b>Reactivity</b>	Human
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Isotype</b>	Mouse / IgG1
<b>Clone Names</b>	BRCA1/1398
<b>Calculated MW</b>	207721

## Additional Information

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<b>Gene ID</b>	672
<b>Other Names</b>	BRCA1; Breast and ovarian cancer susceptibility protein 1; Breast Cancer 1 Early Onset; Breast cancer type 1 susceptibility protein; BROVCA1; IRIS; PNCA4; PPP1R53; Protein phosphatase 1 regulatory subunit 53; PSCP; RING finger protein 53; RNF53
<b>Application Note</b>	Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (1-2ug/ml); ,Immunohistology (Formalin-fixed) (5-10ug/ml for 60 minutes at RT),(Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10mM Citrate Buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined.
<b>Format</b>	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
<b>Storage</b>	Store at 2 to 8°C.Antibody is stable for 24 months.
<b>Precautions</b>	Anti-BRCA1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	BRCA1
<b>Synonyms</b>	RNF53
<b>Function</b>	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](#), PubMed:[12887909](#), PubMed:[12890688](#), PubMed:[14976165](#), PubMed:[16818604](#), PubMed:[17525340](#), PubMed:[19261748](#)). It is unclear whether it also mediates the formation of other types of polyubiquitin chains (PubMed:[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:[12890688](#), PubMed:[14976165](#), PubMed:[20351172](#)). Regulates centrosomal microtubule nucleation (PubMed:[18056443](#)). Required for appropriate cell cycle arrests after ionizing irradiation in both the S-phase and the G2 phase of the cell cycle (PubMed:[10724175](#), PubMed:[11836499](#), PubMed:[12183412](#), PubMed:[19261748](#)). Required for FANCD2 targeting to sites of DNA damage (PubMed:[12887909](#)). Inhibits lipid synthesis by binding to inactive phosphorylated ACACA and preventing its dephosphorylation (PubMed:[16326698](#)). 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:[19369211](#)). 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:[16818604](#)). Acts as a transcriptional activator (PubMed:[20160719](#)).

#### 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

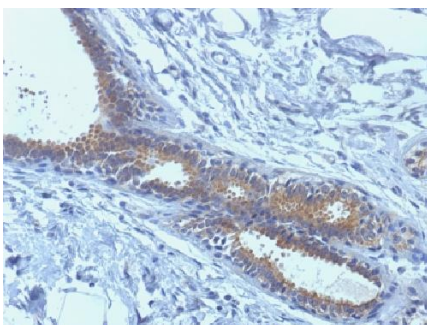
## Background

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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). This gene 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. Mutations in this gene are responsible for approximately 40% of inherited breast cancers and more than 80% of inherited breast and ovarian cancers. Alternative splicing plays a role in modulating the subcellular localization and physiological function of this gene.

## Images

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Formalin-fixed, paraffin-embedded human Breast Carcinoma stained with BRCA1 Monoclonal Antibody (BRCA1/1398).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.