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BRCA1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17140a

Product Information

Application	WB, E
Primary Accession	P38398
Other Accession	NP_009228.2, NP_009225.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB37460
Calculated MW	207721
Antigen Region	443-472

Additional Information

Gene ID	672
Other Names	Breast cancer type 1 susceptibility protein, 632-, RING finger protein 53, BRCA1, RNF53
Target/Specificity	This BRCA1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 443-472 amino acids from the N-terminal region of human BRCA1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	BRCA1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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, 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

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. Many alternatively spliced transcript variants, some of which are disease-associated mutations, have been described for this gene, but the full-length natures of only some of these variants has been described. A related pseudogene, which is also located on chromosome 17, has been identified. [provided by RefSeq].

References

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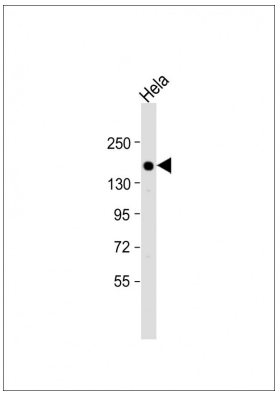
Olsen, J.V., et al. Cell 127(3):635-648(2006)
Fabbro, M., et al. J. Biol. Chem. 279(30):31251-31258(2004)
Ouchi, M., et al. J. Biol. Chem. 279(19):19643-19648(2004)
Orban, T.I., et al. MP, Mol. Pathol. 56(4):191-197(2003)

Images



Anti-BRCA1 Antibody (N-term) at 1:1000 dilution + Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 208 kDa Blocking/Dilution buffer: 5% NFDM/TBST.