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BRCC45 Antibody

Catalog # ASC10581

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9NXR7
Other Accession	NP_004890, 21361171
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	43552
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	BRCC45 antibody can be used for detection of BRCC45 by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	9577
Other Names	BRCA1-A complex subunit BRE, BRCA1/BRCA2-containing complex subunit 45, Brain and reproductive organ-expressed protein, BRE (HGNC:1106), BRCC45
Target/Specificity	BRE;
Reconstitution & Storage	BRCC45 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	BRCC45 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BABAM2 (HGNC:1106)
Synonyms	BRCC45, BRE
Function	Component of the BRCA1-A complex, a complex that specifically recognizes 'Lys-63'-linked ubiquitinated histones H2A and H2AX at DNA lesions sites, leading to target the BRCA1-BARD1 heterodimer to sites of DNA damage at double-strand breaks (DSBs). The BRCA1-A complex also possesses deubiquitinase activity that specifically removes 'Lys-63'- linked ubiquitin on histones H2A and H2AX (PubMed:17525341, PubMed:19261746, PubMed:19261748, PubMed:19261749). In the BRCA1-A complex, it acts as an

	adapter that bridges the interaction between BABAM1/NBA1 and the rest of the complex, thereby being required for the complex integrity and modulating the E3 ubiquitin ligase activity of the BRCA1-BARD1 heterodimer (PubMed:19261748, PubMed:21282113). Component of the BRISC complex, a multiprotein complex that specifically cleaves 'Lys-63'-linked ubiquitin in various substrates (PubMed:19214193, PubMed:24075985, PubMed:25283148, PubMed:26195665). Within the BRISC complex, acts as an adapter that bridges the interaction between BABAM1/NBA1 and the rest of the complex, thereby being required for the complex integrity (PubMed:21282113). The BRISC complex is required for normal mitotic spindle assembly and microtubule attachment to kinetochores via its role in deubiquitinating NUMA1 (PubMed:26195665). The BRISC complex plays a role in interferon signaling via its role in the deubiquitination of the interferon receptor IFNAR1; deubiquitination increases IFNAR1 activity by enhancing its stability and cell surface expression (PubMed:24075985). Down-regulates the response to bacterial lipopolysaccharide (LPS) via its role in IFNAR1 deubiquitination (PubMed:24075985). May play a role in homeostasis or cellular differentiation in cells of neural, epithelial and germline origins. May also act as a death receptor- associated anti-apoptotic protein, which inhibits the mitochondrial apoptotic pathway. May regulate TNF signaling through its interactions with TNFRSF1A; however these effects may be indirect (PubMed:15465831).
Cellular Location	Cytoplasm. Nucleus Note=Localizes at sites of DNA damage at double-strand breaks (DSBs)
Tissue Location	Expressed in all cell lines examined. Highly expressed in placenta.

Background

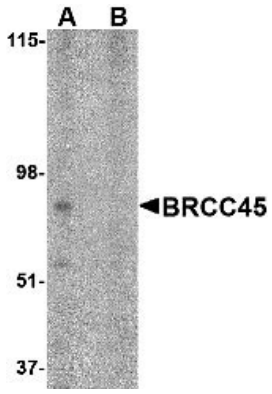
BRCC45 Antibody: BRCC45 was initially suggested to be a housekeeping protein that is highly expressed in brain and reproductive organs. Later experiments indicated BRCC45 forms a complex with the breast and ovarian predisposition proteins BRCA1 and BRCA2 as well as RAD51 and BRCC36. This complex has a ubiquitin E3 ligase activity and is thought to enhance cellular survival following DNA damage. BRCC45 has also been suggested to function as a death receptor-associated anti-apoptotic protein by inhibiting the BID-induced activation of the mitochondrial apoptotic pathway. Higher levels of BRCC45 were detected in the majority of hepatocellular carcinomas, suggesting that BRCC45 may promote tumorigenesis when overexpressed. At least three isoforms of BRCC45 are known to exist.

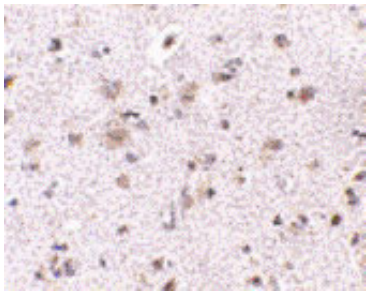
References

Li L, Yoo H, Beckker FF, et al. Identification of a brain- and reproductive-organs-specific gene responsive to DNA damage and retinoic expression. Biochim. Biophys. Res. Commun.1995; 206:764-74.
Dong Y, Hakimi MA, Chen X, et al. Regulation of BRCC, a holoenzyme complex containing BRCA1 and BRCA2, by a signalsome-like subunit and its role in DNA repair. Mol. Cell2003; 12:1087-99.
Li Q, Ching AK, Chan BC, et al. A death receptor-associated anti-apoptotic protein, BRE, inhibits mitochondrial apoptotic pathway. J. Biol. Chem.2004; 279:52106-16.
Chan BC, Ching AK, To KF, et al. BRE is an antiapoptotic protein in vivo and overexpressed in human hepatocellular carcinoma. Oncogene2007; epub.

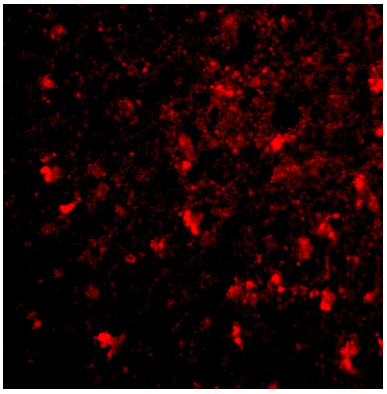
Images

Western blot analysis of BRCC45 in HeLa cell lysate in (A) the absence and (B) presence of blocking peptide with BRCC45 antibody at 1 µg/mL.





Immunohistochemistry of BRCC45 in human brain tissue with BRCC45 antibody at 2.5 µg/mL.



Immunofluorescence of BRCC45 in human brain tissue with BRCC45 antibody at 20 µg/mL.

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