10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

BRCC36 Antibody

Catalog # ASC10582

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P46736
Other Accession	NP_077308, 13236583
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	36072
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	BRCC36 antibody can be used for detection of BRCC36 by Western blot at 0.5 - 2 □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	79184
Other Names	Lys-63-specific deubiquitinase BRCC36, 3.4.19.-, BRCA1-A complex subunit BRCC36, BRCA1/BRCA2-containing complex subunit 3, BRCA1/BRCA2-containing complex subunit 36, BRISC complex subunit BRCC36, BRCC3, BRCC36, C6.1A, CXorf53
Target/Specificity	BRCC3;
Reconstitution & Storage	BRCC36 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	BRCC36 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BRCC3
Synonyms	BRCC36, C6.1A, CXorf53
Function	Metalloprotease that specifically cleaves 'Lys-63'-linked polyubiquitin chains (PubMed:19214193, PubMed:20656690, PubMed:24075985, PubMed:26344097). Does not have activity toward 'Lys- 48'-linked polyubiquitin chains (PubMed:19214193, PubMed:20656690, PubMed:24075985, PubMed:26344097). 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) (PubMed:14636569, PubMed:16707425, PubMed:17525341, PubMed:19202061, PubMed:19261746, PubMed:19261748, PubMed:19261749). In the BRCA1-A complex, it specifically removes 'Lys-63'-linked ubiquitin on histones H2A and H2AX, antagonizing the RNF8-dependent ubiquitination at double-strand breaks (DSBs) (PubMed:20656690). Catalytic subunit of the BRISC complex, a multiprotein complex that specifically cleaves 'Lys-63'-linked ubiquitin in various substrates (PubMed:20656690, PubMed:24075985, PubMed:26195665, PubMed:26344097). Mediates the specific 'Lys-63'-specific deubiquitination associated with the COP9 signalosome complex (CSN), via the interaction of the BRISC complex with the CSN complex (PubMed:19214193). The BRISC complex is required for normal mitotic spindle assembly and microtubule attachment to kinetochores via its role in deubiquitinating NUMA1 (PubMed:26195665). 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, PubMed:26344097). Acts as a regulator of the NLRP3 inflammasome by mediating deubiquitination of NLRP3, leading to NLRP3 inflammasome assembly (By similarity). Down- regulates the response to bacterial lipopolysaccharide (LPS) via its role in IFNAR1 deubiquitination (PubMed:24075985). Deubiquitinates HDAC1 and PWWP2B leading to their stabilization (By similarity).
Cellular Location	Nucleus. Cytoplasm. Cytoplasm, cytoskeleton, spindle pole Note=Localizes at sites of DNA damage at double-strand breaks (DSBs) (PubMed:20656690, PubMed:26344097). Interaction with ABRAXAS2 retains BRCC3 in the cytoplasm (PubMed:20656690).
Tissue Location	Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Aberrantly expressed in the vast majority of breast tumors.

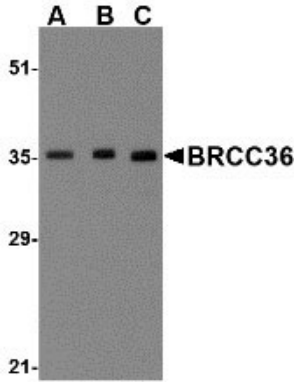
Background

BRCC36 Antibody: Together with the breast and ovarian predisposition proteins BRCA1 and BRCA2 and RAD51 and BRCC45, BRCC36 forms a holoenzyme complex that possesses a ubiquitin E3 ligase activity. Aberrant levels of BRCC36 were detected in sporadic breast tumors and depletion of either BRCC36 or BRCC45 by siRNA resulted in increased sensitivity to ionizing radiation and defects in the G2/M checkpoint, indicating that BRCC36 acts to enhance cellular survival following DNA damage. Recent experiments have shown that BRCC36 is essential for ionizing radiation-induced BRCA1 phosphorylation and nuclear foci formation, suggesting that BRCC36 may be an important target in the treatment of radiation-resistant breast tumors. At least two isoforms of BRCC36 are known to exist.

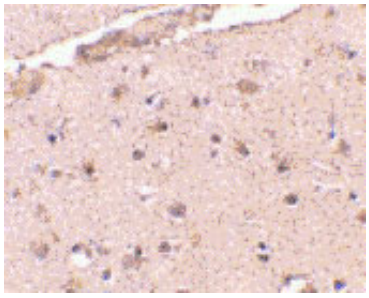
References

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.
Chen X, Arciero CA, Wang C, et al. BRCC36 is essential for ionizing radiation-induced BRCA1 phosphorylation and nuclear foci formation. Cancer Res.2006; 66:5039-46.

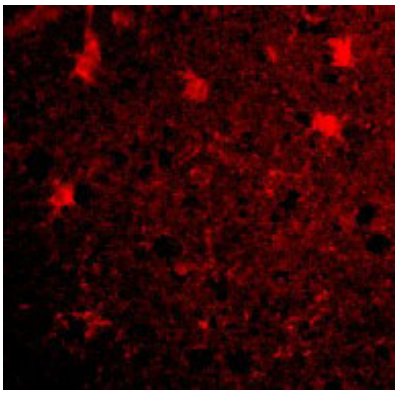
Images



Western blot analysis of BRCC36 in MCF7 cell lysate with BRCC36 antibody at (A) 0.5, (B) 1 and (C) 2 µg/mL.



Immunohistochemistry of BRCC36 in human brain tissue with BRCC36 antibody at 2.5 µg/mL.



Immunofluorescence of BRCC36 in Human Brain cells with BRCC36 antibody at 20 µg/mL.

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