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BAP1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2168a

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	Q92560
Other Accession	D3ZHS6, Q99PU7, A1L2G3, A2VDM8
Reactivity	Human, Mouse, Rat
Predicted	Rat, Zebrafish, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	80362
Antigen Region	36-66

Additional Information

Gene ID	8314
Other Names	Ubiquitin carboxyl-terminal hydrolase BAP1, BRCA1-associated protein 1, Cerebral protein 6, BAP1, KIAA0272
Target/Specificity	This BAP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 36-66 amino acids of human BAP1.
Dilution	WB~~1:2000 IHC-P~~1:100 IF~~1:25 FC~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	BAP1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

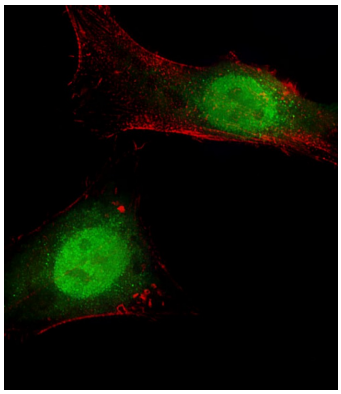
Name	BAP1 {ECO:0000303|PubMed:9528852, ECO:0000312|HGNC:HGNC:950}
Function	Deubiquitinating enzyme that plays a key role in chromatin by mediating deubiquitination of histone H2A and HCFC1 (PubMed:12485996, PubMed:18757409, PubMed:20436459, PubMed:25451922,

	PubMed:35051358). Catalytic component of the polycomb repressive deubiquitinase (PR-DUB) complex, a complex that specifically mediates deubiquitination of histone H2A monoubiquitinated at 'Lys-120' (H2AK119ub1) (PubMed:20436459, PubMed:25451922, PubMed:30664650, PubMed:35051358). Does not deubiquitinate monoubiquitinated histone H2B (PubMed:20436459, PubMed:30664650). The PR-DUB complex is an epigenetic regulator of gene expression and acts as a transcriptional coactivator, affecting genes involved in development, cell communication, signaling, cell proliferation and cell viability (PubMed:20805357, PubMed:30664650, PubMed:36180891). Antagonizes PRC1 mediated H2AK119ub1 monoubiquitination (PubMed:30664650). As part of the PR-DUB complex, associates with chromatin enriched in histone marks H3K4me1, H3K4me3, and H3K27Ac, but not in H3K27me3 (PubMed:36180891). Recruited to specific gene-regulatory regions by YY1 (PubMed:20805357). Acts as a regulator of cell growth by mediating deubiquitination of HCFC1 N- terminal and C-terminal chains, with some specificity toward 'Lys-48'- linked polyubiquitin chains compared to 'Lys-63'-linked polyubiquitin chains (PubMed:19188440, PubMed:19815555). Deubiquitination of HCFC1 does not lead to increase stability of HCFC1 (PubMed:19188440, PubMed:19815555). Interferes with the BRCA1 and BARD1 heterodimer activity by inhibiting their ability to mediate ubiquitination and autoubiquitination (PubMed:19117993). It however does not mediate deubiquitination of BRCA1 and BARD1 (PubMed:19117993). Able to mediate autodeubiquitination via intramolecular interactions to counteract monoubiquitination at the nuclear localization signal (NLS), thereby protecting it from cytoplasmic sequestration (PubMed:24703950). Negatively regulates epithelial-mesenchymal transition (EMT) of trophoblast stem cells during placental development by regulating genes involved in epithelial cell integrity, cell adhesion and cytoskeletal organization (PubMed:34170818).
Cellular Location	Cytoplasm. Nucleus. Chromosome. Note=Mainly nuclear (PubMed:24703950, PubMed:30664650). Binds to chromatin (PubMed:30664650). Localizes to the cytoplasm when monoubiquitinated by the E2/E3 hybrid ubiquitin- protein ligase UBE2O (PubMed:24703950). Recruitment to chromatin is dependent on ASXL1/2/3 and recruitment to specific genes on FOXK1/2 (By similarity). Nuclear localization is redundantly mediated by the importin and transportin systems; TNPO1/transportin-1 is the major mediator of nuclear localization (PubMed:35446349) {ECO:0000250|UniProtKB:Q99PU7, ECO:0000269|PubMed:24703950, ECO:0000269|PubMed:30664650, ECO:0000269|PubMed:35446349}
Tissue Location	Highly expressed in testis, placenta and ovary (PubMed:9528852). Expressed in breast (PubMed:9528852). levels in the placenta increase over the course of pregnancy (PubMed:34170818)

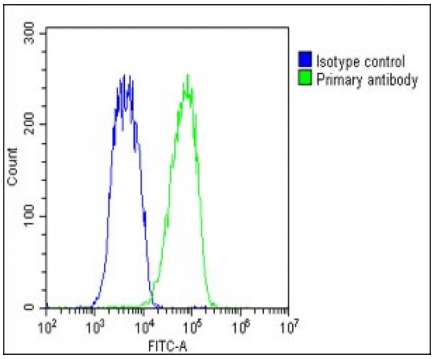
Background

'BRCA1-associated protein-1,' or BAP1 interacts with the RING finger domain of BRCA1. The N-terminal 240 amino acids of the predicted 729-amino acid human protein show homology to ubiquitin C-terminal hydrolases (UCHs), thiol proteases that catalyze proteolytic processing of ubiquitin. In addition, BAP1 contains an acidic region, a highly charged C-terminal region, and 2 putative nuclear localization signals.. BAP1 and BRCA1 associate in vivo and have overlapping subnuclear localization patterns.1 BAP1 enhances BRCA1-mediated inhibition of breast cancer cell growth. Northern blot analysis indicates that BAP1 is expressed as a 4-kb mRNA in all human tissues tested, with A 4.8-kb transcript expressed exclusively in testis. Northern blot analysis and in situ hybridization reveal that BAP1 and BRCA1 are coexpressed during murine breast development and remodeling. The BAP1 gene has been mapped to 3p21.3, a region of loss of heterozygosity for breast cancer as well as frequently deleted in lung carcinomas.1 Intragenic homozygous rearrangements and deletions of BAP1 appear in lung carcinoma cell lines. It has been postulated that BAP1 is a tumor suppressor gene that functions in the BRCA1 growth control pathway.1

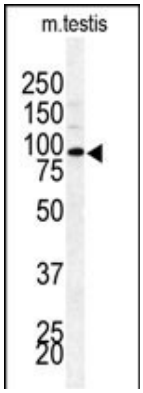
Images



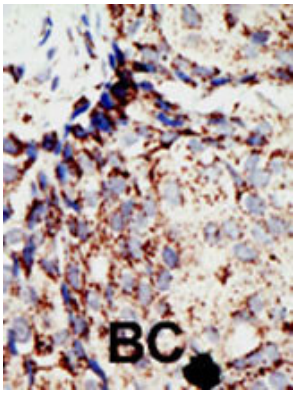
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0. 1% Triton X-100 permeabilized Hela cells labeling BAP1 with AP2168a at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-Rabbit IgG secondary antibody at 1/200 dilution (green). Immunofluorescence image showing Nucleus and Weak Cytoplasm staining on Hela cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin(red). The nuclear counter stain is DAPI (blue).



Overlay histogram showing Hela cells stained with AP2168a(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP2168a, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(1583138) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.



Western blot analysis of BAP1 Antibody (N-term) (Cat.# Ap2168a) in mouse testis lysates (35ug/lane). BAP1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- Germline BAP1 mutation predisposes to uveal melanoma, lung adenocarcinoma, meningioma, and other cancers.

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