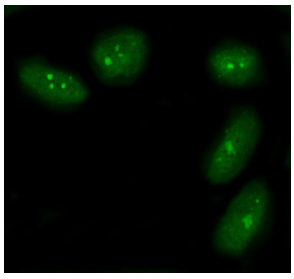
BRCA1-Associated Protein 1 Antibody / BAP1 (RQ6826)

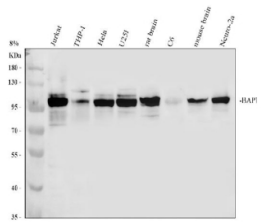
Catalog No.	Formulation	Size
RQ6826	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

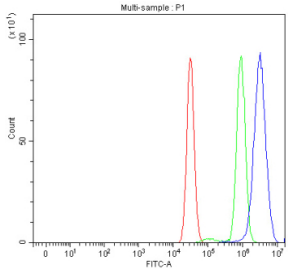
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q92560
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 1-2ug/ml Flow Cytometry : 1-3ug/million cells Direct ELISA : 0.1-0.5ug/ml Immunofluorescence : 5ug/ml
Limitations	This BRCA1-Associated Protein 1 antibody is available for research use only.



Immunofluorescence analysis of BAP1 expression in U87 cells. Human U87 cells were stained with anti-BRCA1-Associated Protein 1 antibody (green), followed by Fluoro488-conjugated goat anti-rabbit IgG secondary antibody. BAP1 signal is observed predominantly within the nuclear region, appearing as punctate and diffuse nuclear staining patterns consistent with chromatin-associated localization. This distribution aligns with the known role of BRCA1-associated protein 1 as a nuclear deubiquitinating enzyme involved in chromatin regulation and transcriptional control.



Western blot analysis of BAP1 expression. Whole cell lysates or tissue lysates from human Jurkat cells (lane 1), human THP-1 cells (lane 2), human HeLa cells (lane 3), human U251 cells (lane 4), rat brain tissue (lane 5), rat C6 cells (lane 6), mouse brain tissue (lane 7), and mouse Neuro-2a cells (lane 8) were separated by SDS-PAGE and probed with anti-BRCA1-Associated Protein 1 antibody. A specific immunoreactive band is detected predominantly at approximately 95-100 kDa across multiple samples, corresponding to BRCA1-associated protein 1. The predicted molecular weight of BAP1 based on its amino acid sequence is approximately 80 kDa; the higher apparent molecular weight observed on SDS-PAGE is consistent with reported post-translational modifications and known migration behavior of BAP1, which commonly appears at an elevated apparent molecular weight in western blot analyses.



Flow cytometry testing of human MCF7 cells with BRCA1-Associated Protein 1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= BRCA1-Associated Protein 1 antibody.

Description

BRCA1-associated protein 1 antibody targets BRCA1-associated protein 1, a nuclear deubiquitinating enzyme encoded by the BAP1 gene. BRCA1-associated protein 1 belongs to the ubiquitin C-terminal hydrolase family and functions as a key regulator of chromatin organization, transcriptional control, and DNA damage response pathways. Initially identified through its interaction with the BRCA1 tumor suppressor, BRCA1-associated protein 1 has since been established as an important component of epigenetic regulation and genome stability across diverse cellular systems.

Functionally, BRCA1-associated protein 1 removes ubiquitin from specific protein substrates, including histone H2A and other chromatin-associated proteins. Through these deubiquitinating activities, BAP1 modulates chromatin accessibility and transcriptional output, thereby influencing gene expression programs involved in cell cycle regulation, cellular differentiation, and stress response pathways. BRCA1-associated protein 1 operates within multiprotein chromatin-regulatory complexes that integrate ubiquitin signaling with transcriptional machinery and DNA repair processes. A BRCA1-associated protein 1 antibody supports studies focused on ubiquitin-dependent signaling, chromatin remodeling, and transcriptional regulation in both normal and disease-associated cellular contexts.

Beyond its catalytic role, BRCA1-associated protein 1 serves as a structural and regulatory component within chromatin-associated protein assemblies. These complexes coordinate interactions between histones, transcriptional regulators, and DNA repair factors, allowing BAP1 to influence multiple layers of nuclear organization. Through these interactions, BRCA1-associated protein 1 contributes to maintenance of chromatin integrity and proper regulation of gene expression programs that are essential for cellular homeostasis. Disruption of these regulatory networks can result in altered transcriptional states and impaired genomic maintenance.

BRCA1-associated protein 1 is broadly expressed in human tissues, with particularly important roles in proliferative, metabolically active, and differentiating cells. Subcellular localization is predominantly nuclear, consistent with its chromatin-associated functions, and is mediated by defined nuclear localization sequences. In certain cellular contexts, including transformed cells or cells experiencing genotoxic stress, cytoplasmic localization of BAP1 has also been reported, suggesting dynamic regulation of its distribution. These localization patterns reflect the involvement of BRCA1-associated protein 1 in adaptive cellular responses rather than a fixed structural role.

At the molecular level, BRCA1-associated protein 1 contains a conserved catalytic domain required for deubiquitinating activity, along with additional regions that mediate protein-protein interactions within chromatin-modifying and

transcriptional complexes. These structural features allow BAP1 to function as an integrator of ubiquitin signaling and epigenetic regulation rather than as an isolated enzymatic factor. Post-translational modifications and interaction-dependent regulation further contribute to context-specific BAP1 activity and localization.

From a disease relevance perspective, BRCA1-associated protein 1 is a well-established tumor suppressor. Loss or inactivation of BAP1 has been implicated in multiple malignancies, including mesothelioma, uveal melanoma, renal cell carcinoma, and other solid tumors. Germline and somatic alterations in the BAP1 gene are associated with increased cancer susceptibility, altered transcriptional regulation, and aggressive disease phenotypes. These findings highlight the importance of BRCA1-associated protein 1-mediated ubiquitin regulation in maintaining genomic stability and controlled cell growth. BRCA1-associated protein 1 antibody reagents support research applications examining epigenetic control mechanisms, DNA damage signaling, tumor suppressor pathways, and chromatin-associated regulatory processes, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the BRCA1-Associated Protein 1 antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids E7-Q702) was used as the immunogen for the BRCA1-Associated Protein 1 antibody.

Storage

After reconstitution, the BRCA1-Associated Protein 1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.