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TP53BP1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO2317a

Product Information

Application	WB, IHC, FC, E
Primary Accession	Q12888
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	6B3E10
Isotype	IgG1
Calculated MW	213574
Description	T protein p53 binding protein 1 may have a role in checkpoint signaling during mitosis,enhance TP53-mediated transcriptional activation and play a role in the response to DNA damage.
Immunogen	Purified recombinant fragment of human TP53BP1 (AA: 574-773) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	7158
Other Names	Tumor suppressor p53-binding protein 1, 53BP1, p53-binding protein 1, p53BP1, TP53BP1
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TP53BP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TP53BP1 (HGNC:11999)
Function	Double-strand break (DSB) repair protein involved in response to DNA damage, telomere dynamics and class-switch recombination (CSR) during antibody genesis (PubMed:12364621, PubMed:17190600, PubMed:21144835, PubMed:22553214, PubMed:23333306, PubMed:27153538,

PubMed:28241136, PubMed:31135337, PubMed:37696958). Plays a key role in the repair of double-strand DNA breaks (DSBs) in response to DNA damage by promoting non-homologous end joining (NHEJ)-mediated repair of DSBs and specifically counteracting the function of the homologous recombination (HR) repair protein BRCA1 (PubMed:22553214, PubMed:23333306, PubMed:23727112, PubMed:27153538, PubMed:31135337). In response to DSBs, phosphorylation by ATM promotes interaction with RIF1 and dissociation from NUDT16L1/TIRR, leading to recruitment to DSBs sites (PubMed:28241136). Recruited to DSBs sites by recognizing and binding histone H2A monoubiquitinated at 'Lys-15' (H2AK15Ub) and histone H4 dimethylated at 'Lys-20' (H4K20me2), two histone marks that are present at DSBs sites (PubMed:17190600, PubMed:23760478, PubMed:27153538, PubMed:28241136). Required for immunoglobulin class- switch recombination (CSR) during antibody genesis, a process that involves the generation of DNA DSBs (PubMed:23345425). Participates in the repair and the orientation of the broken DNA ends during CSR (By similarity). In contrast, it is not required for classic NHEJ and V(D)J recombination (By similarity). Promotes NHEJ of dysfunctional telomeres via interaction with PAXIP1 (PubMed:23727112).

Cellular Location

Nucleus. Chromosome. Chromosome, centromere, kinetochore {ECO:0000250|UniProtKB:P70399}. Note=Localizes to the nucleus in absence of DNA damage (PubMed:28241136). Following DNA damage, recruited to sites of DNA damage, such as double strand breaks (DSBs): recognizes and binds histone H2A monoubiquitinated at 'Lys-15' (H2AK15Ub) and histone H4 dimethylated at 'Lys-20' (H4K20me2), two histone marks that are present at DSBs sites (PubMed:17190600, PubMed:23333306, PubMed:23760478, PubMed:24703952, PubMed:28241136, PubMed:31135337, PubMed:37696958). Associated with kinetochores during mitosis (By similarity). {ECO:0000250|UniProtKB:P70399, ECO:0000269|PubMed:17190600, ECO:0000269|PubMed:23333306, ECO:0000269|PubMed:23760478, ECO:0000269|PubMed:28241136, ECO:0000269|PubMed:37696958}

References

1. Cancer Res. 2012 Oct 1;72(19):4974-83. 2. Int J Biochem Cell Biol. 2012 Sep;44(9):1398-409.

Images

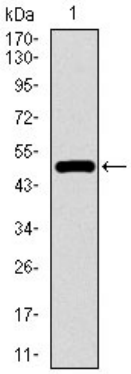
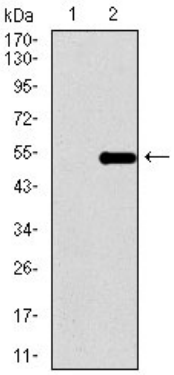


Figure 1: Western blot analysis using TP53BP1 mAb against human TP53BP1 recombinant protein. (Expected MW is 47.6 kDa)

Figure 2: Western blot analysis using TP53BP1 mAb against HEK293 (1) and TP53BP1 (AA: 574-773)-hIgGFc transfected HEK293 (2) cell lysate.



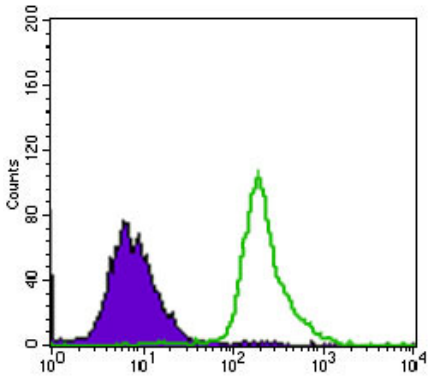


Figure 3: Flow cytometric analysis of HepG2 cells using TP53BP1 mouse mAb (green) and negative control (purple).

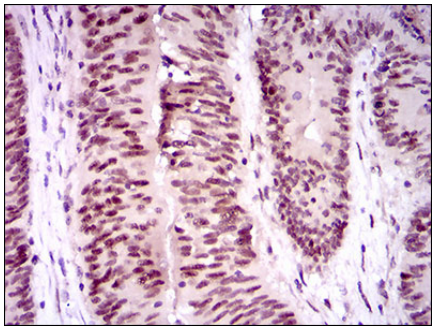


Figure 4: Immunohistochemical analysis of paraffin-embedded colon cancer tissues using TP53BP1 mouse mAb with DAB staining.

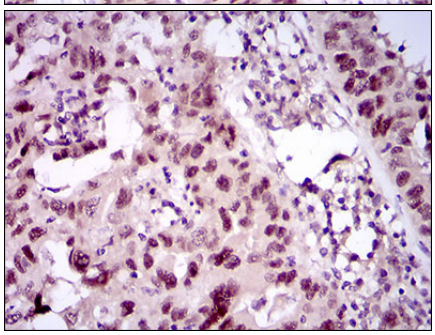


Figure 5: Immunohistochemical analysis of paraffin-embedded endometrial cancer tissues using TP53BP1 mouse mAb with DAB staining.

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