

# 53BP1 Polyclonal Antibody

Catalog # AP68207

## Product Information

---

<b>Application</b>	WB, IHC-P, IF, ICC, E
<b>Primary Accession</b>	<a href="#">Q12888</a>
<b>Reactivity</b>	Human, Mouse, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Calculated MW</b>	213574

## Additional Information

---

<b>Gene ID</b>	7158
<b>Other Names</b>	TP53BP1; Tumor suppressor p53-binding protein 1; 53BP1; p53-binding protein 1; p53BP1
<b>Dilution</b>	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50~200 ICC~~N/A E~~N/A
<b>Format</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
<b>Storage Conditions</b>	-20°C

## Protein Information

---

<b>Name</b>	TP53BP1 ( <a href="#">HGNC:11999</a> )
<b>Function</b>	Double-strand break (DSB) repair protein involved in response to DNA damage, telomere dynamics and class-switch recombination (CSR) during antibody genesis (PubMed: <a href="#">12364621</a> , PubMed: <a href="#">17190600</a> , PubMed: <a href="#">21144835</a> , PubMed: <a href="#">22553214</a> , PubMed: <a href="#">23333306</a> , PubMed: <a href="#">27153538</a> , PubMed: <a href="#">28241136</a> , PubMed: <a href="#">31135337</a> , PubMed: <a href="#">37696958</a> ). 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: <a href="#">22553214</a> , PubMed: <a href="#">23333306</a> , PubMed: <a href="#">23727112</a> , PubMed: <a href="#">27153538</a> , PubMed: <a href="#">31135337</a> ). In response to DSBs, phosphorylation by ATM promotes interaction with RIF1 and dissociation from NUDT16L1/TIRR, leading to recruitment to DSBs sites (PubMed: <a href="#">28241136</a> ). 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: <a href="#">17190600</a> , PubMed: <a href="#">23760478</a> , PubMed: <a href="#">27153538</a> ,

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](#)).

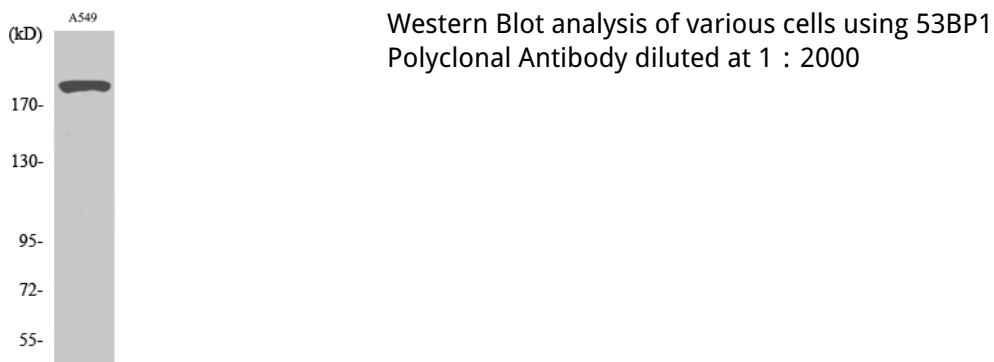
## Cellular Location

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}

## Background

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:[22553214](#), PubMed:[23333306](#), PubMed:[17190600](#), PubMed:[21144835](#), PubMed:[28241136](#)). 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:[23727112](#), PubMed:[23333306](#)). 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:[23760478](#), PubMed:[28241136](#), PubMed:[17190600](#)). Required for immunoglobulin class-switch recombination (CSR) during antibody genesis, a process that involves the generation of DNA DSBs (PubMed:[23345425](#)). Participates to 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](#)).

## Images



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