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[Marker Primary Antibody]

Rabbit Anti-phospho-p53BP1 (Ser25 + Ser29)/AF647 Conjugated antibody

Catalog Number: SL3020R-AF647

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-phospho-p53BP1 (Ser25 + Ser29)/AF647
Immunogen:	KLH conjugated Synthesised phosphopeptide derived from human p53BP1 around the phosphorylation site of Ser25/29
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IF=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Mouse,Rat(predicted:Human,Dog,Pig,Cow,Horse,Rabbit)
Background:	background: p53 binding protein 1 (53BP1) plays a critical role in tumor suppression and is a putative substrate of ATM kinase. Upon DNA damage, it is phosphorylated and relocalizes to the presumptive sites of damage, specifically, double strand breaks. This also suggests a role in DNA repair, maintaining genomic stability. **Function:** May have a role in checkpoint signaling during mitosis. Enhances TP53-mediated transcriptional activation. Plays a role in the response to DNA damage. **Subunit:** Interacts with IFI202A. Binds to the central domain of p53/TP53. May form homooligomers. Interacts with DCLRE1C. Interacts with histone H2AFX and this requires phosphorylation of H2AFX on 'Ser-139'. Interacts with histone H4 that has been dimethylated at 'Lys-20' (H4K20me2). Has low affinity for histone H4 containing monomethylated 'Lys-20'

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	(H4K20me1). Does not bind histone H4 containing unmethylated or trimethylated 'Lys-20' (H4K20me3). Has low affinity for histone H3 that has been dimethylated on 'Lys-79'. Has very low affinity for histone H3 that has been monomethylated on 'Lys-79' (in vitro). Does not bind unmethylated histone H3. Interacts with MUM1/EXPAND1. Interacts with CHEK2; modulates CHEK2 phosphorylation at 'Thr-68' in response to infrared. Interacts with MSL1; this interaction may be required for MSL1 DNA repair activity, but not for histone acetyltransferase activity. **Subcellular Location:** Nucleus. Chromosome; centromere; kinetochore. Associated with kinetochores. Both nuclear and cytoplasmic in some cells. Recruited to sites of DNA damage, such as double stand breaks. Methylation of histone H4 at 'Lys-20' is required for efficient localization to double strand breaks. **Post-translational modifications:** Asymmetrically dimethylated on Arg residues by PRMT1. Methylation is required for DNA binding. Phosphorylated at basal level in the absence of DNA damage. Hyper-phosphorylated in an ATM-dependent manner in response to DNA damage induced by ionizing radiation. Hyper-phosphorylated in an ATR-dependent manner in response to DNA damage induced by UV irradiation. DISEASE: Note=A chromosomal aberration involving TP53BP1 is found in a form of myeloproliferative disorder chronic with eosinophilia. Translocation t(5;15)(q33;q22) with PDGFRB creating a TP53BP1-PDGFRB fusion protein. **Similarity:** Contains 2 BRCT domains. **Database links:** **Entrez Gene:** 7158 Human **Entrez Gene:** 27223 Mouse Omim: 605230 Human **SwissProt:** Q12888 Human **SwissProt:** P70399 Mouse **Unigene:** 440968 Human **Unigene:** 383499 Mouse **Unigene:** 481841 Mouse Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. p53 Binding protein 1 (53BP1) is a cell cycle checkpoint kinase protein and one of the two very important protein kinases MDC1 and 53BP1 in the newly discovered DNA damage repair pathway. It is currently mostly used in Tumour research.