Technical Data Sheet

Purified Mouse anti-p53 (pS46)

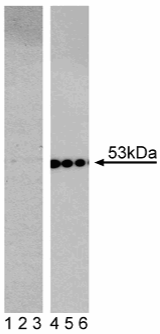
Product Information

Material Number:	**558245**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	I117-1091
Immunogen:	Phosphorylated peptide corresponding to the region including Serine 46 of p53
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Target MW:	53 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

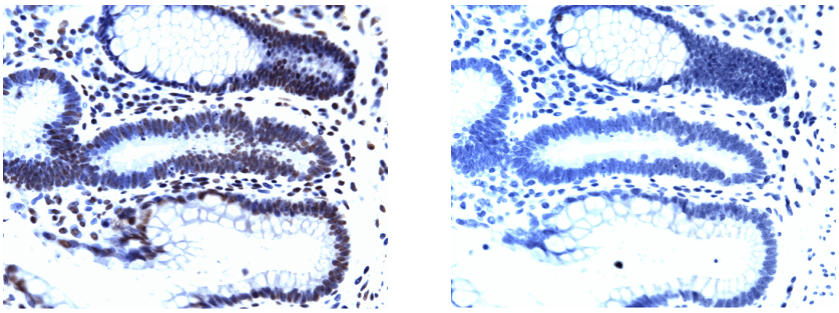
Description

The p53 protein is critical to regulation of normal cell growth and is a suppressor of tumor cell proliferation. Inactivation of p53 by a number of mechanisms, such as missense mutations or interaction with oncogenic viral or cellular proteins, can result in tumor progression. Mutations and/or allelic loss of the p53 gene are associated with a wide variety of human tumors. Known to have a role in transcriptional regulation, p53 suppresses various promoters containing TATA elements in an apparently sequence-independent fashion. p53 also binds to DNA in a sequence-specific manner via recognition of a 20-bp consensus-binding site. This interaction stimulates the expression of genes downstream of the p53 binding site. A number of genes that contain p53-binding sites have been identified, including MDM2, GADD45, and muscle creatine kinase. MDM2 mediates feedback inhibition of p53, which is prevented by phosphorylations of p53 amino-terminal serines and threonines. UV radiation-induced phosphorylation of Serine 46 (S46) is mediated by homeodomain-interacting protein kinase-2 (HIPK2) and is involved in the promotion of apoptosis. Other stress stimuli mediate S46 phosphorylation in p53 via as yet unidentified kinase(s).

The I117-1091 mAb recognizes p53 phosphorylated at S46.



Western blot analysis of p53 (pS46). *Lysates from control (left panel) and UV-irradiated (right panel) A431 human carcinoma cells were probed with purified Mouse anti-p53 (pS46) at concentrations of 0.25, 0.125, and 0.06 µg/ml (Lanes 1, 4), (Lanes 2, 5), and (Lanes 3, 6), respectively. p53 (pS46) is identified as a strong band of 53 kDa in the treated cells.*



p53 (pS46) staining on human colon carcinoma. *The colon carcinoma tissue was fixed in formalin and processed. Following antigen retrieval with BD Retrievagen A buffer (Cat. no. 550524), the sections were either left untreated (left panel) or treated with a phosphatase to eliminate all phosphorylation (right panel). The tissue sections were stained with purified Mouse anti-p53 (pS46) with Hematoxylin counterstaining. Original magnification: 20X.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested
Immunohistochemistry-formalin (antigen retrieval required)	Tested During Development

BD Biosciences

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

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D'Orazi G, Cecchinelli B, Bruno T, et al. Homeodomain-interacting protein kinase-2 phosphorylates p53 at Ser 46 and mediates apoptosis. *Nat Cell Biol.* 2002; 4:11-19.(Biology)

Hofmann TG, Moller A, Sirma H, et al. Regulation of p53 activity by its interaction with homeodomain-interacting protein kinase-2. *Nat Cell Biol.* 2002; 4:1-10. (Biology)

Saito S, Goodarzi AA, Higashimoto Y, et al. ATM mediates phosphorylation at multiple p53 sites, including Ser46, in response to ionizing radiation. *J Biol Chem.* 2002; 277(15):12491-12494.(Biology)