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Inspiration for Life Science

MONOCLONAL ANTIBODY

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Catalog No. BAM-71-117-EX

Anti-p53 Phospho-Ser315

BACKGROUND

p53 mutants are found in more than half of human cancers and are considered as the most important human cancer related gene. p53 is detected at 53kD position by electrophoresis and is composed of 393 amino acids. In the unstressed normal cells the p53 level is low and it is inactive. However, with stress, especially with DNA damage, it is activated to promote arrest of cell cycle and repair of DNA damage, or induction of apoptosis. The functions and stability of p53 are regulated by the phosphorylation of serine and threonine, and the acetylation of lysine at various sites in the molecule.

Ser315 is phosphorylated by aurora kinase and cycline-dependent kinases when cells are subjected to stress such as DNA damage and microtubule disruption by nocodazole (ref 1, 2 & 3). However the effect of the phosphorylation on the function of p53 is mostly unknown

This product is the purified IgG fraction obtained from serum-free culture medium of mouse hybridoma (clone #18) which produces monoclonal antibody that specifically recognizes human p53 protein with phospholyrated Ser315.

Product type	Primary antibodies
Host	Mouse
Source	Serum free culture supernatant monoclonal antibody raised against synthetic peptide of Ser315-phosphorylated p53
Form	Liquid Purified monoclonal antibody (IgG) 1mg/ml in PBS (ph 7.4), 50% glycerol
Volume	50 μg
Concentration	
Specificity	
Antigen	Synthetic peptide of Ser315-phosphorylated p53
Isotype	Mouse IgG2b (κ)

Application notes	WB, Immunohistochemistry, ELISA **Recommended use** **Recommended dilutions** Western blotting: ~ x 1,000~2000 dilution Optimal dilutions/concentrations should be determined by the end user. **Staining Pattern**
Cross reactivity	Although not tested, it is likely to react with other mammalian homologs because of high sequence homology of the antigen.
Storage	-20°C (Long period -70°C)
References	This product has been used for the following references. 1. Katayama H.et al. “Phosphorylation by aurora kinase A induces Mdm2-mediated destabilization and inhibition of p53.” Nature Genet. 36:55-62 (2004) 2.Blaydes JP. et al. “Stoichiometric phosphorylation of human p53 at Ser315 stimulates p53-dependent transcription.”J Biol Chem 276:4699-4708 (2001)

3. Bode AM., Dong Z. “Post-translational modification of p53 in tumorigenesis.” Nature Rev. Cancer 4: 793-805 (2004)

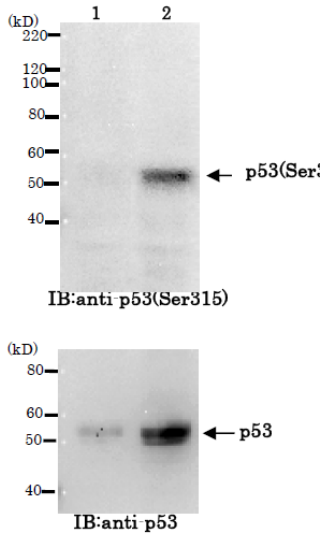

Fig.1 Identification of Ser315-phosphorylated p53 protein by Western blotting.
Sample: Crude cell extracts of MCF7 untreated (lane 1) and treated with nocodazole at 100 ng/ml for 48 h (lane2). The lower panel is the whole p53 protein identified by omnipotent anti-p53 antibody (DO-1).

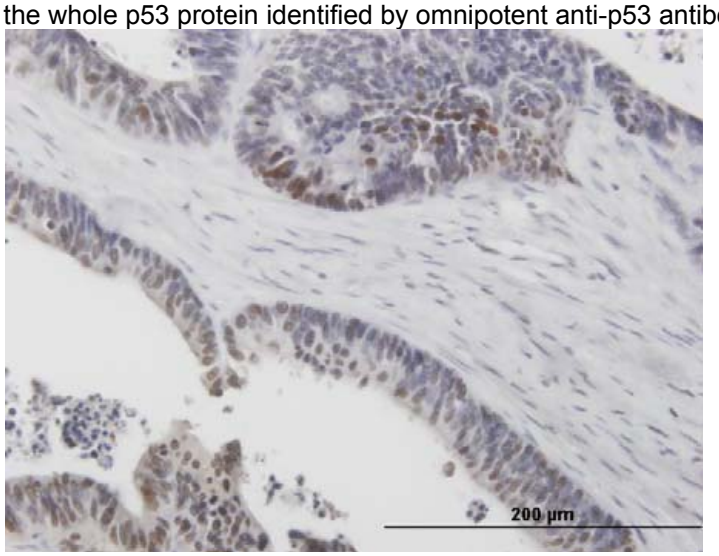

Fig.2 Immunohistochemistry of stomach cancer. (Formalin/PFA-fixed paraffin-embedded sections)

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Manufactured by BioAcademia,Inc.

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