COSMO BIO CO., LTD.
Inspiration for Life Science

MONOCLONAL ANTIBODY

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Catalog No. BAM-71-115-EX

Anti-p53 phospho-Ser46

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 the 53kD position by electrophoresis and is composed of 393 amino acids. In unstressed normal cells, the p53 level is low and inactive. However, with stress, especially with DNA damage, it is activated to promote the arrest of the cell cycle and repair of DNA damage, or induction of apoptosis. The functions of p53 are regulated by phosphorylation of serine and threonine, and acetylation of lysine at various sites in the molecule. Among the phosphorylation sites, Ser46 is phosphorylated when DNA damage is so severe as to become unrepairable, which leads to apoptosis by activating transcription of proapoptotic genes such as p53AIPI (ref 1, 2). As to the kinase of phosphorylation of Ser46, involvement of DYRK2 is implicated (ref 3).
This product is the purified IgG fraction obtained from serum free culture of mouse hybridoma (clone #36) which produces monoclonal antibodies that specifically recognizes p53 protein with phospholyrated Ser46 (ref 3).

Product type	Primary antibodies
Host	Mouse
Source	Serum free culture supernatant monoclonal antibody raised against synthetic peptide of Human Ser46-phosphorylated p53.
Form	Liquid Purified monoclonal antibody (IgG) 1mg/ml in PBS, 50% glycerol
Volume	50 μg
Concentration	
Specificity	
Antigen	Synthetic peptide of Ser46-phosphorylated p53
Isotype	Mouse IgG1 (κ)

Application notes	WB, IH, ELISA **Recommended use** **Recommended dilutions** Western blotting: x 1,000 ~3000 dilution Optimal dilutions/concentrations should be determined by the end user. Data Link: UniProtKB/Swiss-Prot P04637 (P53_HUMAN) **Staining Pattern**
Cross reactivity	Human p53-phospho-Ser46. Nonspecific background reaction is low (Fig. 1)
Storage	-20C (long period, -70 C)
References	This product has been used for the following references. 1. Bode AM & Dong Z “Post-translational modification of p53 in tumorigenesis” Nature Rev Cancer 4: 793-805 (2004) PMID: 15510160 2. Oda K et al “p53AIP1, a potential mediator of p53-dependent apoptosis, and its regulation by Ser-46-phosphorylated p53” Cell 102: 849-862 (2000) PMID: 11030628 3. Taira N et al “DYRK2 is targeted to the nucleus and controls p53 via Ser46

phosphorylation in the apoptotic response to DNA damage" Mol. Cell 25:725-738 (2007) PMID: 17349958

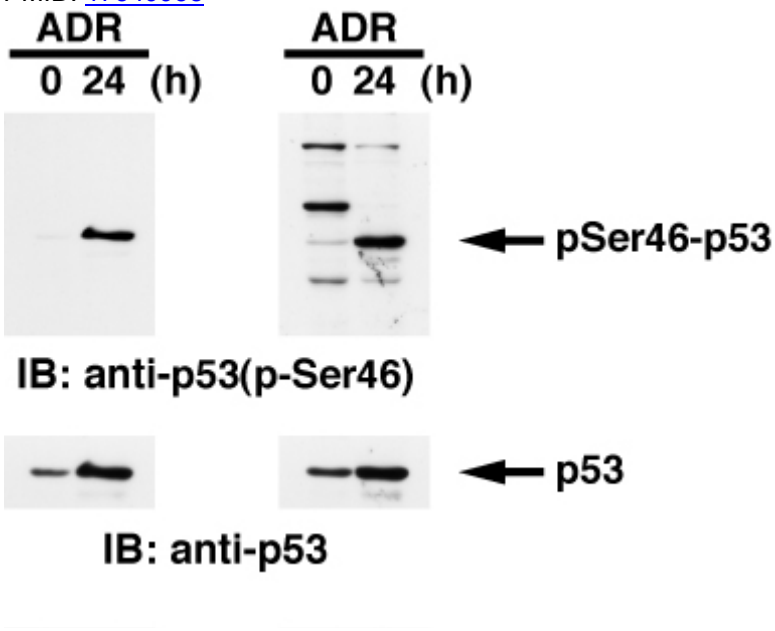

Fig.1 Identification of Ser46-phosphorylated p53 protein by Western blotting. Samples: Crude cell extracts of MOLT-4 untreated (left lanes) and treated with adriamycin for 24 h (right lanes). The left panel is the result with our product and the right panel is the one obtained with the product of our competitor. The lower panel is the whole p53 protein identified by omnipotent anti-p53 antibody.

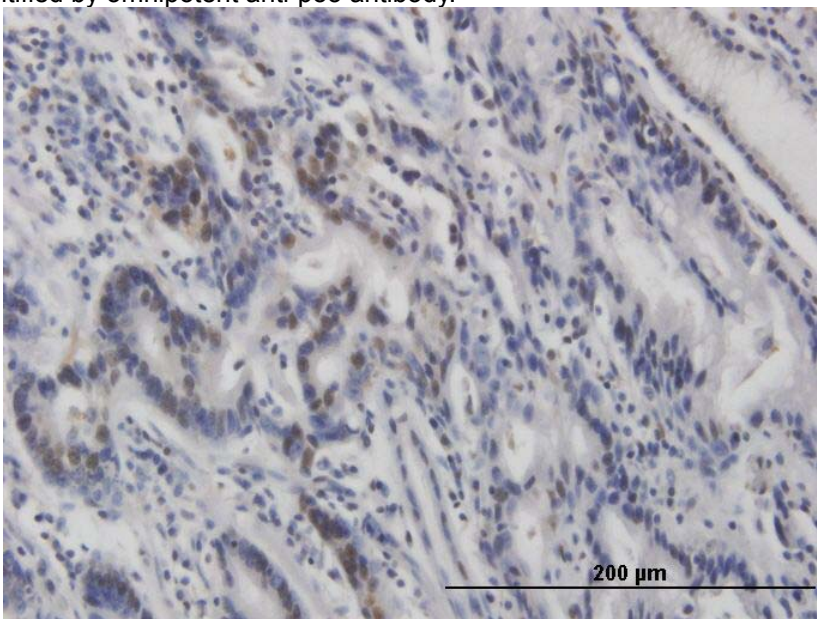

Fig.2 Immunohistochemistry of stomach cancer. (Formalin/PFA-fixed paraffin-embedded section)

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Manufactured by BioAcademia,Inc.

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