Anti-p53 Antibody [7-5]

EM20603

Product Type:	Mouse monoclonal IgG2b, primary antibodies
Species reactivity:	Human
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 53 kDa
Clone number:	7-5

Description: Tumor protein P53, also known as p53, cellular tumor antigen p53 (UniProt name), the Guardian of the Genome, phosphoprotein p53, tumor suppressor p53, antigen NY-CO-13, or transformation-related protein 53 (TRP53), is any isoform of a protein encoded by homologous genes in various organisms, such as TP53 (humans) and Trp53 (mice). The p53 proteins (originally thought to be, and often spoken of as, a single protein) are crucial in vertebrates, where they prevent cancer formation.[6] As such, p53 has been described as "the guardian of the genome" because of its role in conserving stability by preventing genome mutation. Hence TP53 is classified as a tumor suppressor gene. The name p53 was given in 1979 describing the apparent molecular mass; SDS-PAGE analysis indicates that it is a 53-kilodalton (kDa) protein. However, the actual mass of the full-length p53 protein (p53α) based on the sum of masses of the amino acid residues is only 43.7 kDa. This difference is due to the high number of proline residues in the protein, which slow its migration on SDS-PAGE, thus making it appear heavier than it actually is. In addition to the full-length protein, the human TP53 gene encodes at least 15 protein isoforms, ranging in size from 3.5 to 43.7 kDa. All these p53 proteins are called the p53 isoforms. The TP53 gene is the most frequently mutated gene (>50%) in human cancer, indicating that the TP53 gene plays a crucial role in preventing cancer formation. TP53 gene encodes proteins that bind to DNA and regulate gene expression to prevent mutations of the genome.

Immunogen:	Recombinant protein within human p53 aa 50-393.
Positive control:	A431 cell lysate, 293 cell lysate, A431, human colonic carcinoma tissue, human gastric carcinoma tissue.
Subcellular location:	Nucleus, Cytoplasm
Database links:	SwissProt: P04637 Human

Recommended Dilutions:

WB	1:1,000-1:2,000
IHC-P	1:100-1:200
FC	1:100-1:200
IF-Cell	1:100-1:200

Storage Buffer:	1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

Images

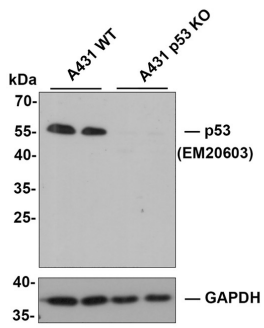

Fig1: All lanes: Western blot analysis of p53 with anti-p53 antibody (EM20603) at 1:500 dilution.
Lane 1/2: Wild-type A431 whole cell lysate (10 µg).
Lane 3/4: p53 knockout A431 whole cell lysate (10 µg).

EM20603 was shown to specifically react with p53 in wild-type A431 cells. No band was observed when p53 knockout sample was tested. Wild-type and p53 knockout samples were subjected to SDS-PAGE. Proteins were transferred to a PVDF membrane and blocked with 5% NFDM in TBST for 1 hour at room temperature. The primary antibody (EM20603, 1/500) and Loading control antibody (Rabbit anti-GAPDH, ET1601-4, 1/10,000) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Mouse IgG-HRP Secondary Antibody (HA1006) at 1:100,000 dilution was used for 1 hour at room temperature.

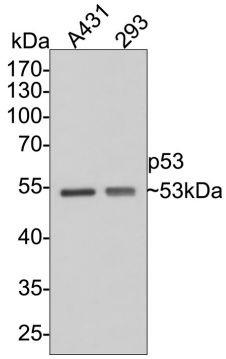

Fig2: Western blot analysis of p53 on different lysates with Mouse anti-p53 antibody (EM20603) at 1/2,000 dilution.

Lane 1: A431 cell lysate
Lane 2: 293 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 53 kDa
Observed band size: 53 kDa

Exposure time: 2 minutes;

10% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (EM20603) at 1/2,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1:150,000 dilution was used for 1 hour at room temperature.

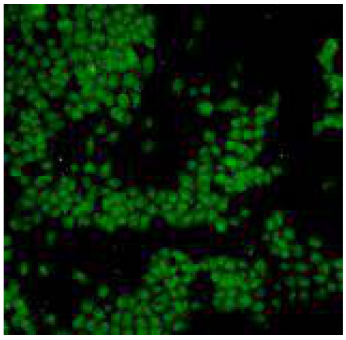

Fig3: ICC staining p53 in A431 cells (green). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

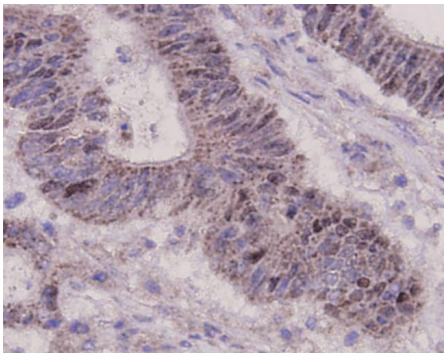

Fig4: Immunohistochemical analysis of paraffin-embedded human colonic carcinoma tissue using anti-p53 antibody. Counter stained with hematoxylin.

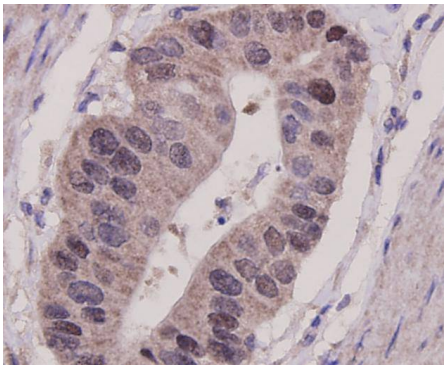

Fig5: Immunohistochemical analysis of paraffin-embedded human gastric carcinoma tissue using anti-p53 antibody. Counter stained with hematoxylin.

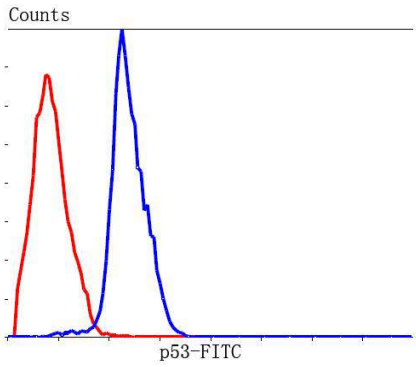

Fig6: Flow cytometric analysis of Hela cells with p53 antibody at 1/100 dilution (blue) compared with an unlabelled control (cells without incubation with primary antibody; red). Goat anti mouse IgG (FITC) was used as the secondary antibody.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. SVH-B interacts directly with p53 and suppresses the transcriptional activity of p53."Zhou X., Yang G., Huang R., Chen X., Hu G.FEBS Lett. 581:4943-4948(2007)
2. Stabilization and activation of p53 induced by Cdk5 contributes to neuronal cell death."Lee J.-H., Kim H.-S., Lee S.-J., Kim K.-T.J. Cell Sci. 120:2259-2271(2007)