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Product Information

Anti-p53 antibody, Mouse monoclonal
Clone BP53-12, purified from hybridoma cell culture

Product Number **SAB4200852**

Product Description

Monoclonal Anti-p53 antibody (mouse IgG2a isotype) is derived from the BP53-12 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with recombinant human wild-type p53 protein[1] (GeneID: 7157). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-p53 antibody specifically recognizes a denaturation-resistant epitope on the primate p53 nuclear protein and does not react with other cellular proteins. The antibody may be used in various immunochemical techniques including Immunoblotting (~53 kDa), Immunofluorescence, Immunoprecipitation[1], Immunohistochemistry[2] and ChIP[3].

The p53 protein was first identified in a complex with the simian virus 40 (SV40) large T-antigen.[4-5] p53 is classified as a key tumor suppressor and is the most commonly mutated gene in human cancers; it is mutated in over 50% of all human cancers.[6] Due to its central role in the DNA damage response (DDR), p53 is often referred to as the “guardian of the genome” and is suggested to be the most studied human gene of all time.[7-8] p53 mutations are frequent in breast, lung, colon, ovarian, brain, testicular and bladder cancers, melanoma, neurofibrosarcoma and certain types of leukemia[1-8].
The human wild-type p53 protein is a 393 amino acid nuclear phosphoprotein present in the nucleus of all normal mammalian cells where it appears to be involved in the regulation of cell proliferation. The normal protein has a very short half-life and is present in only minute amounts in normal tissues and cells. In contrast, mutant p53 protein produced by malignant cells is usually a product of a point mutation in the p53 gene leading to substitution of a single amino acid that significantly prolongs the half-life of the protein. The accumulation of high levels of p53 is a potential novel marker for malignancy.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.
Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8°C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.06-0.125 μg/mL is recommended using human epidermoid carcinoma A431 cell line whole extract.

Immunofluorescence: a working concentration of 0.25-0.5 μg/mL is recommended using human A431cells.

Note: In order to obtain best results in different techniques and preparations it is recommended to determine optimal working concentration by titration test.

References

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6. Brady CA. and Attardi LD., *J Cell Science*, **123**, 2527-32 (2010).
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