Technical Data Sheet

Purified Mouse Anti-Human p53

Product Information
Material Number: 554294
Size: 0.1 mg
Concentration: 0.5 mg/ml
Clone: DO-7
Immunogen: Human Recombinant p53 protein
Isotype: Mouse IgG2b
QC Testing: Human
Tested in Development: Monkey, Cow
Reactivity:
Target MW: 53 kDa
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description
p53 is a 53 kD nuclear phosphoprotein that acts as a tumor suppressor protein, and is involved in inhibiting cell proliferation when DNA damage occurs. The gene for p53 is the most commonly mutated gene yet identified in human cancers. Missense mutations occur in tumors of the colon, lung, breast, ovary, bladder and several other organs. The mutant p53 is overexpressed in a variety of transformed cells and wildtype p53 forms specific complexes with several viral oncoproteins including SV40 large T, E1B from adenovirus, and E6 from human papilloma virus. Wildtype p53 plays a role as a checkpoint protein for DNA damage during the G1/S-phase of the cell cycle. However, it is still unclear, whether point mutated forms of p53 are simple null mutants and/or dominant negatively acting proteins.

The DO-7 antibody recognizes human wildtype and mutant p53. It cross-reacts with bovine p53 but does not cross-react with mouse or rat p53. DO-7 recognizes an epitope between amino acids 1-45 of known forms of human p53. Human recombinant p53 protein was used as immunogen. Wildtype p53 proteins have a very short half-life and are usually not detectable with monoclonal antibodies (mAbs) in normal tissues.

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

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Application Notes

**Application**

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<thead>
<tr>
<th>Test Method</th>
<th>Status</th>
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<tr>
<td>Intracellular staining (flow cytometry)</td>
<td>Routinely Tested</td>
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<tr>
<td>Western blot</td>
<td>Routinely Tested</td>
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<tr>
<td>Immunohistochemistry-formalin (antigen retrieval required)</td>
<td>Tested During Development</td>
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<td>Immunohistochemistry-frozen</td>
<td>Tested During Development</td>
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<tr>
<td>Immunoprecipitation</td>
<td>Tested During Development</td>
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**Recommended Assay Procedure:**

Positive control cell lines include SK-BR-3 breast carcinoma cells (ATCC HTB-30), A431 epidermal carcinoma cells (ATCC CRL-1555) and CEM human leukemia cells (ATCC CCL-119). MCF-7 breast carcinoma cells (ATCC HTB-22) are suggested as a negative control. Positive immunostaining is seen in a high proportion of breast and colon carcinomas. p53 staining is not typically detected in normal skin, brain, kidney, lung, stomach, or breast tissue.

**Product Notices**

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. 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.
3. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.
4. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.

**References**