

Anti-p53 (Clone: DO7)
Mouse monoclonal antibody
Reference: AP10370; AP10370C



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INTENDED USE AND PRESENTATION:

For *in vitro* diagnostic use.

AP10370, 7 ml. Prediluted antibodies in a synthetic organic linear polymer buffer solution (pH 7.4), with carrier protein and preservative for stabilisation "READY TO USE"

AP10370C, 1 ml. Concentrated antibodies with carrier protein and preservative for stabilisation.

SUMMARY, EXPLANATION AND LIMITATIONS:

p53 (also known as tumor protein 53 [TP53]) is a transcription factor that regulates the cell cycle and, hence, functions as a tumor suppressor. p53 has been described as "the guardian of the genome", referring to its role in conserving stability by preventing genome mutation. p53 has many anti-cancer mechanisms. It can activate DNA repair proteins when DNA has sustained damage; it can also hold the cell cycle at the G1/S regulation point on DNA damage recognition. It can initiate apoptosis, programmed cell death, if DNA damage proves to be irreparable. p53 is central to many of the cell's anti-cancer mechanisms. It can induce growth arrest, apoptosis and cell senescence. Mutations involving p53 have been found in a wide variety of malignant tumors, including Breast, Ovarian, Bladder, Colon, Lung, and Melanoma.

Immunohistochemistry (IHC) is a complex technique in which immunological and histological detection methods are combined. In general, the manipulation and processing of tissues before immunostaining, especially different types of tissue fixation and embedding, as well as the nature of the tissues themselves may cause inconsistent results (Nadji and Morales, 1983). Endogenous pseudoperoxidase and peroxidase activity or endogenous biotin and alkaline phosphatase activity can cause non-specific staining results depending on the detection system used. Tissues that contain Hepatitis B surface antigen (HBsAg) can produce false positives when using HRP detection systems (Omata et al, 1980). Insufficient contrast staining and/or improper mounting of the sample may influence the interpretation of results.

Isotype: IgG2b/kappa

Immunogen: Recombinant human wild type p53 protein expressed in *E. coli*.

Staining pattern: Nuclear.

The interpretation of the stain results is the full responsibility of the user. Any experimental result must be confirmed by a medically established diagnostic product or procedure.

Positive control: Tissue sample from breast carcinoma or colon carcinoma.

External negative control: Tissue sample homologous to the test sample incubated with an antibody isotype not specific for p53.

APPLICATIONS:

This antibody is designed for the specific localization of human p53 using IHC techniques in formalin-fixed, paraffin-embedded tissue sections.

The expression of p53 is associated with poor prognosis in breast cancer. In colon tumors, p53 protein is expressed in 47% of cancers and 9% of adenomas only. Its expression in normal mucosa have found.

PRODUCT COMPOSITION:

Mouse immunoglobulin IgG2b/kappa, clone DO7, purified from the ascites fluid by Protein A chromatography. The preparation contains saline buffer, stabilising and carriers proteins, and sodium azide as a preservative.

METHODS AND PROCEDURE:

Principles of the procedure: The demonstrations of antigens by IHC is a sequential procedure with several steps involving first the application of a specific antibody for the antigen of interest (primary antibody), then a secondary antibody which joins to the first, an enzyme complex, and the addition of a chromogenic substrate. The sample is washed between each step. Enzymatic activation of the chromogenic substrate creates a visible product where the antigen is located. The results are interpreted using a light microscope. The primary antibody can be used both in manual IHC and with automated immunostainers.

Specimen: Paraffin-embedded tissue samples should be used. The antibody is also useful for immunostaining frozen tissue samples. Western blot techniques are not recommended.

Staining procedure:

Antigen retrieval	HIER Citrate Buffer pH 6.5
Working dilution (only for concentrates)	1:100 – 1:300
Incubation	30 min; RT
Control Tissue	Breast carcinoma, colon carcinoma

Amplification and development of the immunostaining:

Follow standard procedure and the recommendations given by the manufacturer for the materials used. In the case of using automated immunostainers, use the specified buffers and materials for each instrument.

See our web site at www.gennova-europe.com for detailed protocols ancillary reagents and support products.

REQUIRED MATERIALS BUT NOT SUPPLIED:

All reagents, materials, and laboratory equipment for IHC procedures are not provided with this antibody. This includes adhesive slides and cover slips, positive and negative control tissues, Xylene or adequate substitute, ethanol, distilled H₂O, heat pretreatment equipment (pressure cooker, steamer, microwave), pipettes, Coplin jars, glass jars, moist chamber, histological baths, negative control reagents, counter-staining solution, mounting materials, and microscope.

Buffered solutions for antigen retrieval, enzyme treatments, highly sensitive detection systems, and other auxiliary reagents are available from Genova Scientific.

STORAGE AND STABILITY:

Store at 2-8 °C until the expiration date printed on product



Catalog number



Batch code



In Vitro diagnostic medical device



Temperature limitation



Expiration date



Manufacturer



See instruction for use



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label. Do not use after the expiration date. If fresh solutions are required, these must be prepared immediately prior to use, and will be stable for at least one day at room temperature (20-25°C). Unused portion of antibody preparation should be discarded after one day. If the product is stored under different conditions from those stipulated in these technical indications, the new conditions must be verified by the user. The validity period of the ready to use products when opened, is the same as the expiration date indicated on the label of intact product.

Gennova Scientific guarantees that the product will maintain all of the described characteristics from the production date until the expiration date, as long as the product is stored and used as recommended. No other guarantees are provided. Under no circumstances is Gennova Scientific obliged to cover damages caused by use of this reagent.

TROUBLESHOOTING:

If unusual staining is observed or any other deviations from the expected results, please read these instructions carefully, along with the instructions from the detection system. If this does not solve the problem, please contact Gennova Scientific's technical support department or your local distributor.

PRECAUTIONS:

Use only by qualified personnel.

Use proper protective equipment in order to avoid contact with reagents and samples in the eyes, skin, and mucosal tissues. In case of contact with sensitive areas, immediately flush the affected area with water. Avoid microbial contamination of the reagent, as this may produce nonspecific staining results. This antibody contains sodium azide (NaN₃), used as a stabilising agent, which is not considered to be a hazardous material in the concentration used. Concentration of sodium azide in drainage pipes made of lead or copper can cause the formation of highly explosive metallic azides. In order to avoid this, sodium azide must be disposed of along with a large volume of running water. Material safety data sheet (MSDS) for pure sodium azide is available upon request.

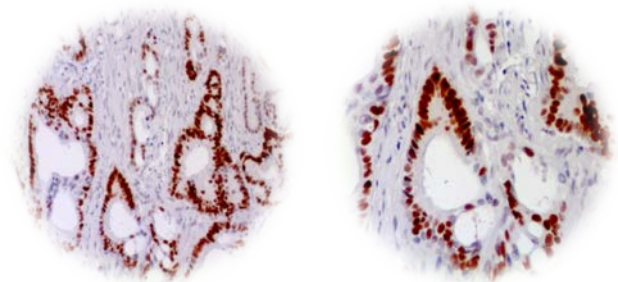
PERFORMANCE CHARACTERISTICS:

Gennova Scientific has performed studies to evaluate the functioning of these antibodies for use with standard detection systems, concluding that the product is both specific and sensitive for the antigen of interest.

BIBLIOGRAPHY:

Lam K Y, Lo C Y, Wat N M S, et al.. The clinicopathological features and importance of p53, Rb, and mdm2 expression in pheochromocytomas and paragangliomas. *Journal of Clinical Pathology*. 54: 443-448 (2001).
Takes R P, Baatenburg de Jong R J, Wijnffels K, et al.. Expression of genetic markers in lymph node metastases compared with their primary tumours in head and neck cancer. *Journal of Pathology*. 194: 298-302 (2001).
Tweddle D A, Malcolm A J, Cole M, et al.. p53 cellular localization and function in neuroblastoma. *American Journal of Pathology*. 158 (6): 2067-2077 (2001).
Moreno Sierra J, López García Asenjo J A, Redondo González E, et al.. Usefulness of p53 oncoprotein immunohistochemistry in the follow-up of bladder carcinoma: a 5-year study. *Arch. Esp. Urol*. 52 (8): 840-848 (1999).

Vojtesek B, Bartek J, Midgley C A, et al.. An immunochemical analysis of human nuclear phosphoprotein p53: new monoclonal antibodies and epitope mapping using recombinant p53. *Journal of Immunological Methods*. 151: 237-244 (1992).
Purdie C A, O'Grady J, Piris J, et al.. p53 expression in colorectal tumours. *American Journal of Pathology*. 138: 807-813 (1991).
Gannon J V, Greaves R, Iggo R, et al.. Activating mutations in p53 produce a common conformational effect. A monoclonal antibody specific for the mutant form. *EMBO Journal*. 9: 1595-1601 (1990).
Iggo R, Gatter K, Bartek J, et al.. Increased expression of mutant forms of p53 oncogene in primary lung cancer. *Lancet*. 335(ii): 675-679 (1990).
Lane D P and Benchimol S. p53: oncogene or anti-oncogene? *Genes and Development*. 4: 1-8 (1990).
Cattoretti G, Rilke F, Andreola S, et al.. p53 expression in breast cancer. *International Journal of Cancer*. 41: 178-183 (1988).
Banks L, Matlashewski G and Crawford L. Isolation of human p53 specific monoclonal antibodies and their use in human p53 expression. *European Journal of Biochemistry*. 159: 529-534 (1986).
Nadji M, Morales AR. Immunoperoxidase, part 1: the techniques and its pitfall. *Lab Med* 1983; 14:767-770.
Omata M, Liew CT, Ashcavai M, Peters RI. Nonimmunologic binding of horseradish peroxidase to hepatitis B surface antigen. A possible source of error in immunohistochemistry. *Am J Clin Pathol*. May, 1980;73(5):626-632.



10 ×

20 ×

IHC of p53 (clone DO7) on FFPE breast carcinoma tissue.
Citrate pH 6.5; DAB; Hematoxylin

F01IT04_V4R0312_AP10370_English



Catalog number



Batch code



In Vitro diagnostic medical device



Temperature limitation



Expiration date



Manufacturer



See instruction for use



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