

Technical Data Sheet

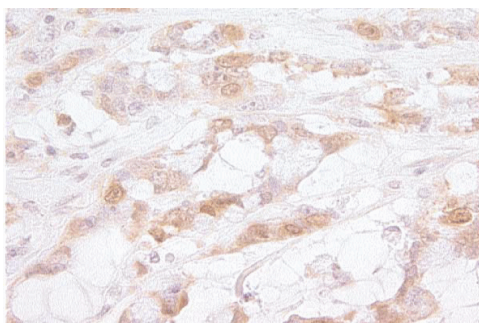
Purified Mouse Anti-Human p16

Product Information

Material Number:	550834
Alternate Name:	p16-INK4, p16-INK4a, ARF, MTS1, CDKN2, CDK4I
Size:	1.0 ml
Concentration:	31.25 µg/ml
Clone:	G175-405
Immunogen:	Human p16 Recombinant Protein
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA, goat serum, and ≤0.09% sodium azide.

Description

Cyclins and cyclin-dependent kinases (cdks) form active complexes that regulate key events during the progression of the cell cycle and are evolutionarily highly conserved. The p16 protein has been identified as a specific inhibitor of cdk4 because it blocks cdk4 substrate phosphorylation. p16 inhibits cdk4 dependent phosphorylation of the tumor suppressor retinoblastoma protein (Rb) and Rb related proteins, p107 and p130. The biochemical properties of p16 suggest that it may be a tumor suppressor gene product. Recently a gene cloned from the short arm of human chromosome 9, Multiple Tumor Suppressor 1 (MTS1) has been identified as the gene for p16. The gene, now also known as the CDKN2 gene, has been found to be mutated in a very high percentage of tumors, including 75% of melanoma cell lines.



Immunohistochemistry for p16. A formalin-fixed, paraffin-embedded section from human breast tissue was stained with the Mouse Anti-Human p16 antibody. Cells expressing p16 can be identified by the intense brown labeling of their cell nuclei (magnification 20X).

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

Application

Western blot	Routinely Tested
Immunohistochemistry-frozen	Tested During Development
Immunohistochemistry-formalin (antigen retrieval required)	Tested During Development

Recommended Assay Procedure:

Immunohistochemistry: The p16 antibody is recommended to test for immunohistochemical staining on formalin-fixed paraffin-embedded sections. Tissues tested were human breast or colon sections. For paraffin sections, microwave oven pretreatment with BD Retrieval A (pH 6.0) (Cat. No. 550524) is required. Staining is nuclear and/or cytoplasmic. Yeager et al. found p16 to be both nuclear and cytoplasmic in melanoma. The isotype control recommended for use with this antibody is purified mouse IgG1 (Cat. No. 550878). For optimal indirect immunohistochemical staining, this p16 antibody should be titrated (1:10 to 1:50 dilution) and visualized via a three-step staining procedure in combination with the Polyclonal Biotin Goat Anti-Mouse Ig (Cat. No. 550337) as the secondary antibody and Streptavidin-HRP (Cat. No. 550946) together with the DAB Substrate Kit (Cat. No. 550880). Alternatively, the Anti-Mouse Ig HRP Detection Kit (Cat. No. 551011) offers all the necessary reagents to stain for this antibody.

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Suggested Companion Products

Catalog Number	Name	Size	Clone
550524	Retrievagen A (pH 6.0)	1000 ml	(none)
550878	Purified Mouse IgG1 κ Isotype Control	1.0 ml	MOPC-31C
551011	Anti-Mouse Ig HRP Detection Kit	200 tests	(none)
550337	Biotin Goat Anti-Mouse Ig (Multiple Adsorption)	1.0 ml	Polyclonal
550946	Streptavidin HRP	50 ml	(none)
550880	DAB Substrate Kit	500 tests	(none)
551153	Purified Mouse Anti-Human p16 with Control	50 μ g	G175-405
551154	Purified Mouse Anti-Human p16 with Control	150 μ g	G175-405
559148	Antibody Diluent for IHC	125 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. The contents of the enclosed container(s) is/are covered by United States Patent No.(s) 7,691,632 and 7,425,617 [as well as certain issued foreign patents], under which BD Biosciences has been granted a limited license only. By opening the enclosed container(s), you agree to use the contained reagent(s) for research purposes only and not for any therapeutic or diagnostic applications or commercial drug screening. If you do not agree to be bound by these terms, return the unopened container(s) to BD Biosciences, 10975 Torreyana Rd, San Diego, CA 92121, for a full refund. Any non-authorized use of the contained reagent(s) may constitute infringement of the Patent(s) for which you may face civil liability.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. 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.
5. An isotype control should be used at the same concentration as the antibody of interest.
6. This antibody has been developed for the immunohistochemistry application. However, a routine immunohistochemistry test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance.
7. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.

References

Kamb A, Gruis NA, Weaver-Feldhaus J, et al. A cell cycle regulator potentially involved in genesis of many tumor types. *Science*. 1994; 264(5157):436-440.

(Biology)

Marx J. Link to hereditary melanoma brightens mood for p16 gene. *Science*. 1994; 265(5177):1364-1365. (Biology)

Serrano M, Hannon GJ, Beach. A new regulatory motif in cell-cycle control causing specific inhibition of cyclin D/CDK4. *Nature*. 1993; 366(6456):704-707.

(Immunogen)

Yeager T, Stadler W, Belair C, Puthenveetil J, Olopade O, Reznikoff C. Increased p16 levels correlate with pRb alterations in human urothelial cells. *Cancer Res*.

1995; 55(3):493-497. (Clone-specific)

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