Technical Data Sheet

Purified Mouse Anti-Human p16 with Control

Product Information

Material Number:	**551154**
Alternate Name:	p16-INK4, p16-INK4a, ARF, MTS1, CDKN2, CDK4l
Reactivity:	QC Testing: Human
Component:	**51-1325GR**
Description:	Purified Mouse Anti-Human p16
Size:	50 µg (3 ea)
Concentration:	0.25 mg/ml
Clone Name:	G175-405
Immunogen:	Human p16 Recombinant Protein
Isotype:	Mouse IgG1
Target MW:	16 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.
Component:	**51-16516N**
Description:	HeLa Control Lysate
Size:	50 µg (1 ea)
Concentration:	1.0 mg/ml
Storage Buffer:	SDS-PAGE buffer (62mM Tris pH 6.8, 2% SDS, 0.9% b-mercaptoethanol, 0.003% bromophenol blue, 5% glycerol)

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.

Western blot analysis for p16. *A HeLa cell lysate was probed with the Mouse Anti-Human p16 antibody (clone G175-405, Component No. 51-1325GR) at concentrations of 0.25 (lane 1), 0.125 (lane 2), and 0.06 µg/ml (lane 3). p16 is identified as a band of 16 kDa.*

Preparation and Storage

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

Store both the Purified Mouse Anti-Human p16 antibody (component 51-1325GR) and the HeLa control lysate (component 51-16516N) undiluted at -20°C.

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Application Notes

Application

Western blot	Routinely Tested
Immunoprecipitation	Tested During Development
Immunohistochemistry-frozen	Tested During Development
Immunohistochemistry-paraffin	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml
Endogenous p16 has been detected in several cell lines including Saos-2 human osteosarcoma (ATCC HTB-85), WI-38 human lung fibroblast (ATCC CCL-75), HeLa cervical carcinoma (ATCC CCL-2) and 293 adenovirus immortalized human kidney (ATCC CRL-1573) cells. U-2 OS human osteosarcoma (ATCC HTB-96) and MCF7 human breast carcinoma (ATCC HTB-22) have been reported to have undetectable levels of p16 and are suggested as negative controls.

The differential tissue expression of p16 remains to be characterized by immunohistochemistry. Yeager et al. has reported p16 to be both nuclear and cytoplasmic in melanoma.

Suggested Companion Products

Catalog Number	Name	Size	Clone
611449	HeLa Cell Lysate	500 µg	(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. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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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)

Shapiro GI, Edwards CD, Kobzik L, et al. Reciprocal Rb inactivation and p16INK4 expression in primary lung cancers and cell lines. *Cancer Res.* 1995; 55(3):505-509. (Biology)

Tam SW, Shay JW, Pagano M. Differential expression and cell cycle regulation of the cyclin-dependent kinase 4 inhibitor p16Ink4. *Cancer Res.* 1994; 54(22):5816-5820. (Clone-specific: Immunohistochemistry)

Yeager T, Stadler W, Belair C, Puthenveettil 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)