# **Technical Data Sheet** Purified Mouse Anti-p21

Product Information			
Material Number:	556430		
Size:	0.1 mg		
Concentration:	0.5 mg/ml		
Clone:	SX118		
Immunogen:	Purified Human p21 Recombinant Fusion Protein		
Isotype:	Mouse IgG1, κ		
Reactivity:	Human, Mouse, Rat QC Testing: Human, Mouse		
Target Molecular Weight:	21 kDa		
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.		

#### Description

Cyclins and cyclin-dependent kinases (cdks) are evolutionarily conserved proteins that are essential for cell-cycle control in eukaryotes. Cyclins (regulatory subunits) to form complexes that regulate the progression of the cell cycle. The activity of these complexes is modulated by activating and inhibitory phosphorylation events, as well as by interactions with small regulatory proteins including, p16, p21, p27 and others. These proteins, referred to as inhibitors of Cdk activity (CDkIs) bind to cyclins, cdks or their complexes. p21, also known as senescent cell-derived inhibitor 1 (Sdi1), wild-type p53-activated fragment 1 (Waf1), Cdk-interacting protein 1 (Cip1), and p53-regulated inhibitor of Cdks (Pic1) inhibits cyclin D-cdk4, cyclin E-cdk3, cyclin A-cdk2, and cyclin A-cdk1. p21 can also inhibit cell cycle progression by binding to PCNA and blocking DNA replication. p21 has also shown to be a component of active cyclin-cdk complexes, suggesting that p21-containing complexes may shift between active and inactive states through changes in p21 content. Active, p21-containing complexes appear to contain one p21 molecule, whereas inactive complexes contain multiple p21 molecules. The expression of p21 can be induced in response to number of signals, including transcriptional upregulation by the tumor suppressor protein, p53. Human p21 has a calculated molecular weight of 18 kDa and runs at 21 kDa in SDS-PAGE.

The epitope has been mapped to the last 20 amino acids (residues 145-164) of human p21, one of the most conserved regions between human and mouse p21. Reaction of the antibody with overlapping peptides fragments suggest that the epitope may be further mapped to residues 145-156 (TSMTDFYHSKRR). This sequence overlaps with the sequence of p21 (KRRQTSMTDFYH) which is responsible for the specific interaction of p21 with PCNA.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development or reported in the literature only.



Western blot analysis of p21 in human and mouse cell lines. Lysates from MCF-7 human breast adenocarcinoma cells (lane 1) and EL4 mouse lymphoma cells (lane 2) were probed with anti-p21 (clone SX118, Cat. No. 556430). The mouse (Ms) homolog of human (Hu) p21 is slightly smaller than human p21.

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# **Preparation and Storage**

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

# **Application Notes**

#### Application

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

# **Suggested Companion Products**

Catalog Number	Name	Size	Clone
611449	HeLa Cell Lysate	500 μg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)

# **Product Notices**

- 1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
- 2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
- 3. 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.

#### References

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