

Datasheet for ABIN967527

## anti-p21 antibody

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### Overview

Quantity:	0.1 mg
Target:	p21 (CDKN1A)
Reactivity:	Human, Mouse, Rat
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This p21 antibody is un-conjugated
Application:	Western Blotting (WB), Immunofluorescence (IF), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunoprecipitation (IP), Immunohistochemistry (Frozen Sections) (IHC (fro))

### Product Details

Brand:	BD Pharmingen™
Immunogen:	Purified Human p21 Recombinant Fusion Protein
Clone:	SX118
Isotype:	IgG1 kappa
Cross-Reactivity:	Mouse (Murine)
Characteristics:	<ol style="list-style-type: none"> <li>1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.</li> <li>2. Please refer to us for technical protocols.</li> <li>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.</li> </ol>

## Product Details

Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
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## Target Details

Target:	p21 (CDKN1A)
Alternative Name:	p21 ( <a href="#">CDKN1A Products</a> )

Background:	<p>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 Cdk (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.</p>
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Molecular Weight:	21 kDa
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Pathways:	<a href="#">p53 Signaling</a> , <a href="#">PI3K-Akt Signaling</a> , <a href="#">Cell Division Cycle</a> , <a href="#">AMPK Signaling</a> , <a href="#">Fc-epsilon Receptor Signaling Pathway</a> , <a href="#">EGFR Signaling Pathway</a> , <a href="#">Neurotrophin Signaling Pathway</a> , <a href="#">Mitotic G1-G1/S Phases</a> , <a href="#">DNA Replication</a> , <a href="#">Hepatitis C</a> , <a href="#">Synthesis of DNA</a> , <a href="#">Autophagy</a>
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## Application Details

Comment: Related Products: ABIN968535, ABIN967389

Restrictions: For Research Use only

## Handling

Format: Liquid

Concentration: 0.5 mg/mL

Buffer: Aqueous buffered solution containing  $\leq 0.09$  % sodium azide.

Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C

Storage Comment: Store undiluted at 4° C.

## Publications

Product cited in:

Fredersdorf, Milne, Hall, Lu: "Characterization of a panel of novel anti-p21Waf1/Cip1 monoclonal antibodies and immunochemical analysis of p21Waf1/Cip1 expression in normal human tissues." in: **The American journal of pathology**, Vol. 148, Issue 3, pp. 825-35, (1997) ([PubMed](#)).

Levine: "p53, the cellular gatekeeper for growth and division." in: **Cell**, Vol. 88, Issue 3, pp. 323-31, (1997) ([PubMed](#)).

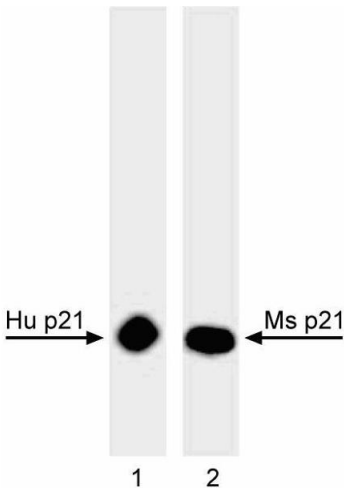
Mazars, Jat: "Expression of p24, a novel p21Waf1/Cip1/Sdi1-related protein, correlates with measurement of the finite proliferative potential of rodent embryo fibroblasts." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 94, Issue 1, pp. 151-6, (1997) ([PubMed](#)).

Graña, Reddy: "Cell cycle control in mammalian cells: role of cyclins, cyclin dependent kinases (CDKs), growth suppressor genes and cyclin-dependent kinase inhibitors (CKIs)." in: **Oncogene**, Vol. 11, Issue 2, pp. 211-9, (1995) ([PubMed](#)).

Huppi, Siwarski, Dosik, Michieli, Chedid, Reed, Mock, Givol, Mushinski: "Molecular cloning,

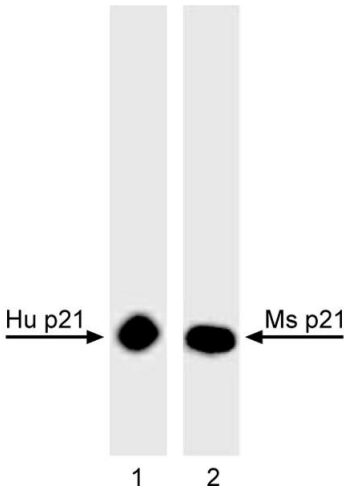
sequencing, chromosomal localization and expression of mouse p21 (Waf1)." in: **Oncogene**,  
Vol. 9, Issue 10, pp. 3017-20, (1994) ([PubMed](#)).

Image 1.



Western Blotting

**Image 2.** 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, ABIN967527). The mouse (Ms) homolog of human (Hu) p21 is slightly smaller than human p21.



Western Blotting

Image 3.