

## Technical Data Sheet

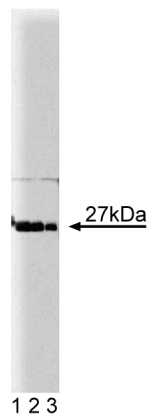
**Purified Mouse Anti-p27[Kip1]****Product Information**

<b>Material Number:</b>	<b>610241</b>
<b>Size:</b>	50 µg
<b>Concentration:</b>	250 µg/ml
<b>Clone:</b>	57/Kip1/p27
<b>Immunogen:</b>	Mouse Kip1 aa. 1-197
<b>Isotype:</b>	Mouse IgG1
<b>Reactivity:</b>	QC Testing: Human Tested in Development: Dog, Rat, Mouse, Chicken, Frog
<b>Target MW:</b>	27 kDa
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

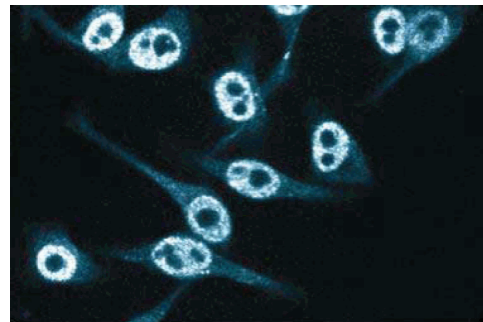
**Description**

Kip1 is a cyclin-dependent kinase (cdk) inhibitor that was identified as a result of its role in TGFβ-induced G1 phase arrest and cell-cell contact. In vitro, p27 [Kip1] binds tightly to Cyclin D-Cdk4, Cyclin E-Cdk2, and Cyclin A-Cdk2 complexes and inhibits their activity. In normal cells, Kip1 is sequestered and its activity gradually decreases as cells reach S phase. The addition of TGF-β in early G1 blocks this decline in activity, by preventing the sequestration of Kip1. TGF-β also reduces the levels of Cdk4. Kip1 preferentially binds Cyclin D-Cdk4, but the lower levels of Cdk4 in TGF-β treated cells allow Kip1 to be available for binding to Cyclin E-Cdk2 and Cyclin A-Cdk2. Kip1 is structurally related to Cip1/WAF1, having a similar 60 amino acid sequence in the N-terminal region. A 52 amino acid Kip1 peptide (residues 28-79) from this region is sufficient to inhibit cdk activity in vitro.

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



**Western blot analysis of p27[Kip1] on HeLa cell lysate.**  
Lane 1: 1:2500, lane 2: 1:5000, lane 3: 1:10000 dilution of anti-p27[Kip1].



**Immunofluorescent staining of HeLa cells.**

**Preparation and Storage**

Store undiluted at -20° C.

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

**BD Biosciences**

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## Application Notes

### Application

Western blot	Routinely Tested
Immunoprecipitation	Tested During Development
Immunofluorescence	Tested During Development
Immunohistochemistry	Tested During Development

### Suggested Companion Products

Catalog Number	Name	Size	Clone
611449	HeLa Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharming/en/protocols](http://www.bdbiosciences.com/pharming/en/protocols) for technical protocols.
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.

### References

Barnouin K, Dubuisson ML, Child ES. H2O2 induces a transient multi-phase cell cycle arrest in mouse fibroblasts through modulating cyclin D and p21Cip1 expression. *J Biol Chem.* 2002; 277(16):13761-13770.(Clone-specific: Depletion, Immunofluorescence, Western blot)

Frey MR, Clark JA, Leontieva O, Uronis JM, Black AR, Black JD. Protein kinase C signaling mediates a program of cell cycle withdrawal in the intestinal epithelium. *J Cell Biol.* 2000; 151(4):763-778.(Clone-specific: Immunofluorescence, Western blot)

Polyak K, Kato JY, Solomon MJ, et al. p27Kip1, a cyclin-Cdk inhibitor, links transforming growth factor-beta and contact inhibition to cell cycle arrest. *Genes Dev.* 1994; 8(1):9-22.(Biology)

Polyak K, Lee MH, Erdjument-Bromage H, et al. Cloning of p27Kip1, a cyclin-dependent kinase inhibitor and a potential mediator of extracellular antimitogenic signals. *Cell.* 1994; 78(1):59-66.(Biology)

Williamson EA, Dadmanesh F, Koeffler HP. BRCA1 transactivates the cyclin-dependent kinase inhibitor p27(Kip1). *Oncogene.* 2002; 21(20):3199-9206. (Clone-specific: Immunohistochemistry, Western blot)