



Qty: 50 µg/200 µL

Rabbit anti-phospho-p27(Ser10)

Catalog No. 34-6300

Lot No. See product label

Rabbit anti-phospho-p27(Ser10)

FORM

This polyclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. The antibody is epitope-affinity-purified from rabbit antiserum.

PAD: ZMD.212

IMMUNOGEN

Synthetic peptide encompassing the phosphorylated Ser10 residue of p27/Kip1.

SPECIFICITY

This polyclonal antibody recognizes p27 when it is phosphorylated at the Ser10 residue. Lysates of HEK 293T cells transfected with an expression plasmid encoding a p27 mutant where Ser10 was substituted with an alanine residue were used to confirm the antibody's specificity.

REACTIVITY

Reactivity was confirmed with HEK293 cells expressing wild-type p27/KIP that is normally phosphorylated. NIH3T3 and MCF-7 cell lysates can also be used as positive controls.

Sample	Western Blotting	Immunoprecipitation ⁶	Immunofluorescence
Rat	+++	++	ND
Mouse ⁶	++	ND	ND
Human ⁶	++	++	++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting⁶: 1-3 µg/mL
Immunoprecipitation⁶: 5-10µg/IP reaction
Immunofluorescence⁶: 5-10 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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PI346300

(Rev 10/08) DCC-08-1089

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BACKGROUND

Cyclin dependent kinases (Cdk) govern cell cycle progression in eukaryotic cells¹. Various cyclin dependent kinase inhibitors may suppress the activity of these proteins. There are two families of Cdk inhibitors, the cip/kip (kinase inhibitor protein) and ink4 (inhibitor of CDK4) families. The cip/kip inhibitors share sequence homology and can inhibit the kinase activities of a variety of Cdks. Cdk inhibitor p27(Kip1) is a member of the kip family and negatively regulates G1 progression by binding to cyclin-Cdk2 complexes. The concentration and subcellular localization of p27 controls its activity². Cellular abundance of p27 is regulated by its degradation via the ubiquitin-proteasome pathway³. p27 needs to be transported into the nucleus to exert its inhibitory action⁴. Nuclear import is dependent on the presence of a nuclear localization signal near the C-terminus of the protein⁵, whereas nuclear export into the cytoplasm is dependent on Ser10 phosphorylation⁶. Export into the cytoplasm has been suggested as a mechanism to remove a fraction of p27 from its nuclear targets thereby lowering its effective nuclear concentration below a critical threshold resulting in activation of cyclin-Cdk2 complexes⁶. There have been several reports that indicate p27 (Kip1) mediates multiple cellular functions such as cell proliferation, cell differentiation, and apoptosis⁷. The pivotal role of p27 in these cellular functions makes it important in many disease processes, including neoplasia, and its reduced expression has been shown to correlate with poor prognosis in cancer patients⁷.

REFERENCES

1. Sherr CJ, Roberts JM. *Genes Dev* 13(12):1501-1512, 1999
2. Slingerland J, Pagano M. *J Cell Physiol* 183(1):10-17, 2000.
3. Pagano M, et al. *Science* 269(5224):631-632, 1995.
4. Tomoda K, et al. *Nature* 398:160-165, 1999.
5. Zeng Y, et al. *Biochem Biophys Res Comm* 274(1):37-42, 2000.
6. Rodier G, et al. *EMBO* 20(23):6672-6682, 2001.
7. Sgambato A, et al. *J Cell Phys* 183(1):18-27, 2000.

RELATED PRODUCTS

Product	Clone/PAD*	Cat. No.
Mouse anti-p27/Kip1	p27-11D11	33-2800
Rabbit anti-p27/Kip1	FP1	71-9600
Rabbit anti-phospho-p27(Thr187)	PT-187	71-7700
Mouse anti-UBC3	2E3B5	32-2000
Rabbit anti-UBC3	HC34	71-9900
Mouse anti-Ubiquitin	Ubi-1	13-1600
Rabbit anti-UNP	CSM-11	71-8900
Mouse anti-Cyclin D1	AM29	33-3500
Mouse anti-Cyclin D1	D1-72-13G	13-4500
Mouse anti-GMP 1 (SUMO-1)	21C7	33-2400
Mouse anti-Sentrin 2 (SUMO-3)	NRD.1	51-9100
Mouse anti-Proteasome Subunit	21D11	32-1100

*PAD: Polyclonal Antibody Designation

Conjugate	ZyMAX™ Goat x Rabbit IgG (H+L)	ZyMAX™ Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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