Revision 1

Phospho-p57 Kip2 (Thr310) Antibody

#2558 Store at -20C

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-IC	H	Endogenous	57	Rabbit	#P49918	1028

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-p57 Kip2 (Thr310) Antibody detects endogenous levels of p57 Kip2 only when phosphorylated at threonine 310. This antibody may cross-react with p27 Kip1 when phosphorylated at Thr187.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr310 of human p57 Kip2. Antibodies are purified by protein A and peptide affinity chromatography.

Background

p27 Kip1 is a member of the Cip/Kip family of cyclin-dependent kinase inhibitors. Like its relatives, p57 Kip2 and p21 Waf1/Cip1, the ability to enforce the G1 restriction point is derived from its inhibitory binding to CDK2/cyclin E and other CDK/cyclin complexes. Expression levels of p27 are upregulated in quiescent cells and in cells treated with cAMP or other negative cell cycle regulators. Downregulation of p27 can be induced by treatment with interleukin-2 or other mitogens; this involves phosphorylation of p27 and its degradation by the ubiquitin-proteasome pathway (1-4).
Levels of p57 Kip2 are controlled by ubiquitination/degradation via the Skp1/Cul1/F-box-type E3 ubiquitin ligase complex SCF-Skp2, and this effect is dependent on Thr310 (5). A similar threonine phosphorylation site in p27 Kip1, Thr187, has also been shown to regulate protein stability (6).

Background References

1. Lloyd, R.V. et al. (1999) *Am J Pathol* 154, 313-23.
2. Polyak, K. et al. (1994) *Genes Dev* 8, 9-22.
3. Kato, J.Y. et al. (1994) *Cell* 79, 487-96.
4. Vlach, J. et al. (1997) *EMBO J* 16, 5334-44.
5. Kwon, T. et al. (2000) *J Biol Chem* 275, 423-8.
6. Heeneman, S. et al. (2000) *J Biol Chem* 275, 15926-32.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

Trademarks and Patents

Limited Uses

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