p57 Kip2 monoclonal antibody

Catalog: MB66091 Host: Mouse Reactivity: Human

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.

p57 Kip2 (Cyclin-dependent kinase inhibitor 1C) functions as a tumor suppressor. Mutations of p57 Kip2 have been associated with numerous human malignancies as well as Beckwith–Wiedemann syndrome (BWS), characterized by an increased risk of childhood cancer. The amino-terminal CDK inhibitory domain, common to the family, binds to and inhibits CDK/cyclin complexes and restricts cell cycle progression. The unique central region of p57 Kip2 interactes with LIMK-1, a downstream effector of the Rho family of GTPases. By sequestering LIMK-1 in the nucleus, p57 Kip2 disrupts actin dynamics within cells and may be linked to its essential role in embryonic development. In addition, the carboxyl-terminal QT domain of p57KIP2 binds to and inhibits JNK/SAPK activity regulating cellular apoptosis and differentiation. Expression levels of human p57 Kip2 are more restricted then other CDK inhibitors and are controlled by ubiquitination/degradation via the Skp1/Cul1/F-box-type E3 ubiquitin ligase complex SCF-Skp2. This effect is dependent on Thr310. A similar threonine phosphorylation site in p27 Kip1, Thr187, has also been shown to regulate protein stability.

Product:

Mouse IgG3. Liquid in PBS containing 50% glycerol, 0.2% BSA and 0.01% sodium azide.

Molecular Weight:

~ 32 kDa

Swiss-Prot:

P49918

Purification&Purity:

The antibody was affinity-purified from mouse antiserum by affinity-chromatography using epitope-specific immunogen and the purity is > 95% (by SDS-PAGE).

Applications:

IHC (1/100 - 1/300)

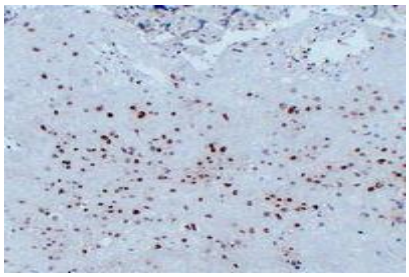
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

Specificity:

Recognizes endogenous levels of p57 Kip2 protein.

DATA:



Immunohistochemical analysis of p57 Kip2 staining in human placenta formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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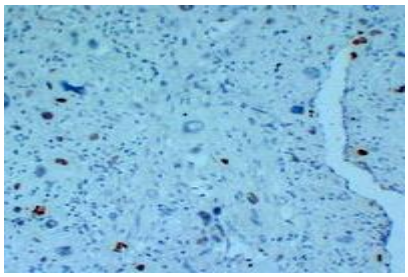

Immunohistochemical analysis of p57 Kip2 staining in human partial hydatidiform mole formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Note:

For research use only, not for use in diagnostic procedure.

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