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Anti-p21/WAF1 (MOUSE) Monoclonal Antibody

p21 WAF1 Antibody
Catalog # ASR4136

Specification

Anti-p21/WAF1 (MOUSE) Monoclonal Antibody - Product Information

Host	**Mouse**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Monoclonal**
Application	**WB, IHC, E, IP, I, LCI**
Application Note	**Anti-p21/WAF1 has been tested in ELISA, western blot, and immunofluorescence. This product is also suitable for immunohistochemistry. The antibody detects a 21 kDa band corresponding to the p21 protein. MCF7 cells or UV treated fibroblasts are suggested as a positive control for immunoblotting and immunohistochemistry. Methanol/acetone fixed tissue is reactive for immunohistochemistry. The antibody also reacts with breast carcinoma on frozen sections (methanol/acetone fixation) and on paraffin sections (formalin fixation and microwave treatment prior to staining). In ELISA this monoclonal antibody is useful either as a capture antibody (attached to the solid phase) or for detection of p21 protein. This antibody immunoprecipitates monomeric p21WAF1 and not p21 complexes with other proteins. High level expression of p21WAF1 requires induction of wild-type p53 expression (e.g. via exposure to DNA damaging agents).**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.5 M Sodium Chloride, pH 7.2**
Immunogen	**This protein A purified monoclonal antibody was produced by repeated immunizations with recombinant human p21 fusion protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-p21/WAF1 (MOUSE) Monoclonal Antibody - Additional Information

Gene ID 1026

Other Names

1026

Purity
This protein A purified mouse monoclonal antibody reacts with human and mammalian p21. The intracellular protein p21 is a 21 kD protein and also known as wild-type p53-activated fragment 1 (WAF1). It is an inhibitor of cyclin-dependent kinases (Cdks) and proliferating-cell nuclear antigen (PCNA). The antibody is highly specific and shows no cross-reactivity with other closely related mitotic inhibitors.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-p21/WAF1 (MOUSE) Monoclonal Antibody - Protein Information

Name CDKN1A (HGNC:1784)

Function
Plays an important role in controlling cell cycle progression and DNA damage-induced G2 arrest (PubMed:9106657). Involved in p53/TP53 mediated inhibition of cellular proliferation in response to DNA damage. Also involved in p53-independent DNA damage-induced G2 arrest mediated by CREB3L1 in astrocytes and osteoblasts (By similarity). Binds to and inhibits cyclin-dependent kinase activity, preventing phosphorylation of critical cyclin-dependent kinase substrates and blocking cell cycle progression. Functions in the nuclear localization and assembly of cyclin D-CDK4 complex and promotes its kinase activity towards RB1. At higher stoichiometric ratios, inhibits the kinase activity of the cyclin D-CDK4 complex. Inhibits DNA synthesis by DNA polymerase delta by competing with POLD3 for PCNA binding (PubMed:11595739). Negatively regulates the CDK4- and CDK6-driven phosphorylation of RB1 in keratinocytes, thereby resulting in the release of E2F1 and subsequent transcription of E2F1-driven G1/S phase promoting genes (By similarity).

Cellular Location
Cytoplasm. Nucleus

Tissue Location
Expressed in all adult tissues, with 5-fold lower levels observed in the brain

Anti-p21/WAF1 (MOUSE) Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation

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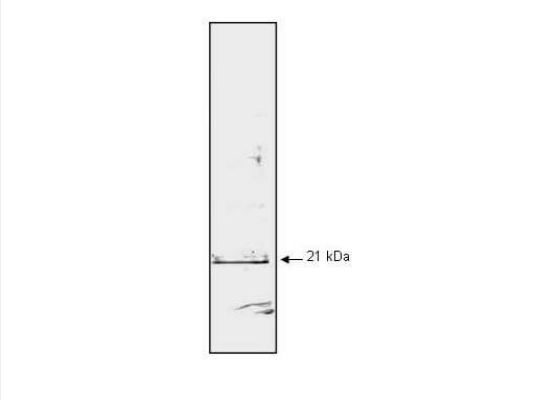
- Flow Cytomety
- Cell Culture

Anti-p21/WAF1 (MOUSE) Monoclonal Antibody - Images



Mab anti-Human p21WAF1 antibody (clone WA-1) is shown to detect human p21 by western blot. Detection occurs after 10 µg of a HeLa whole cell lysate (p/n W09-000-364) is loaded per lane. The blot was incubated with a 1:1,000 dilution of Mab anti-Human p21WAF1 at room temperature for 30 min followed by detection using IRDye™800 labeled Goat-a-Mouse IgG [H&L] (p/n 610-132-121) diluted 1:5,000. A single band corresponding to human p21WAF1 is detected at ~21 kDa when compared with known molecular weight standards (not shown). The antibody may be used to detect endogenous human p21WAF1. IRDye™800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.

Anti-p21/WAF1 (MOUSE) Monoclonal Antibody - Background

p21WAF1 is a tumor suppressor gene product critical to maintain proper regulatory control of cell division. p21WAF1 inhibits cyclin/cyclin-dependent kinase (cdk) complexes, causing cell cycle arrest by blocking cell division at the S phase. Various mutations of tumor suppressor genes have been associated with different types of cancers. In these cases, somatic gene therapy with wild-type versions of tumor suppressor genes have been contemplated as anti-cancer therapeutic approaches. p21WAF1 contains p53-binding sites in its promoter and expression of p21WAF1 is induced in WI38 fibroblasts with PMA. Anti-p21WAF1 antibody is useful for researches interested in studying tongue and gastrointestinal cancers, as well as, ubiquitin and cyclin binding proteins.