Datasheet for ABIN105216

anti-p21 antibody

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Overview

Quantity:	100 µg
Target:	p21 (CDKN1A)
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This p21 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunofluorescence (IF), Immunohistochemistry (IHC), Immunoprecipitation (IP), Multiplex Assay (MA), Fluorescence Microscopy (FM)

Product Details

Purpose:	p21 WAF1 Antibody
Immunogen:	Immunogen: This protein A purified monoclonal antibody was produced by repeated immunizations with recombinant human p21 fusion protein. Immunogen Type: Recombinant Protein
Clone:	WA-1
Isotype:	IgG1 kappa
Cross-Reactivity (Details):	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).
Characteristics:	Synonyms: mouse anti-p21/WAF1 antibody, Cyclin-dependent kinase inhibitor 1A (p21, CIP1) antibody, DNA Synthesis Inhibitor antibody, MDA 6 antibody, MDA6 antibody, Melanoma

Product Details

	Differentiation Associated Protein 6 antibody
Purification:	Protein A purified
Sterility:	Sterile filtered

Target Details

Target:	p21 (CDKN1A)
Alternative Name:	CDKN1A (CDKN1A Products)
Background:	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.
Gene ID:	1026
NCBI Accession:	NP_510867
UniProt:	P38936
Pathways:	p53 Signaling, PI3K-Akt Signaling, Cell Division Cycle, AMPK Signaling, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Mitotic G1-G1/S Phases, DNA Replication, Hepatitis C, Synthesis of DNA, Autophagy

Application Details

Application Notes:	Immunohistochemistry Dilution: User Optimized 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

Application Details

	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). Western Blot Dilution: 1:2,000 - 1:10,000 Immunoprecipitation Dilution: 1:100 ELISA Dilution: 1:5,000 - 1:20,000 IF Microscopy Dilution: 1:250 Other: User Optimized
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1.0 mg/mL
Buffer:	Buffer: 0.02 M Potassium Phosphate, 0.5 M Sodium Chloride, pH 7.2 Stabilizer: None Preservative: 0.01 % (w/v) Sodium Azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	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.
Expiry Date:	12 months

Publications

Product cited in:	Supiot, Hill, Bristow: "Nutlin-3 radiosensitizes hypoxic prostate cancer cells independent of p53." in: **Molecular cancer therapeutics**, Vol. 7, Issue 4, pp. 993-9, (2008) (PubMed). Joshi, Chen, Kalemkerian, Adil, Kraut, Sarkar: "Inhibition of tumor cell growth by p21WAF1

Publications

adenoviral gene transfer in lung cancer." in: **Cancer gene therapy**, Vol. 5, Issue 3, pp. 183-91, (1998) (PubMed).

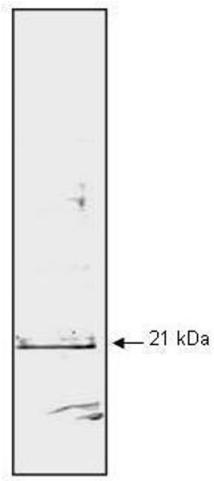
Kagawa, Fujiwara, Hizuta, Yasuda, Zhang, Roth, Tanaka: "p53 expression overcomes p21WAF1/CIP1-mediated G1 arrest and induces apoptosis in human cancer cells." in: **Oncogene**, Vol. 15, Issue 16, pp. 1903-9, (1997) (PubMed).

Yang, Perkins, Ohno, Nabel, Nabel: "The p21 cyclin-dependent kinase inhibitor suppresses tumorigenicity in vivo." in: **Nature medicine**, Vol. 1, Issue 10, pp. 1052-6, (1996) (PubMed).

Waldman, Kinzler, Vogelstein: "p21 is necessary for the p53-mediated G1 arrest in human cancer cells." in: **Cancer research**, Vol. 55, Issue 22, pp. 5187-90, (1995) (PubMed).

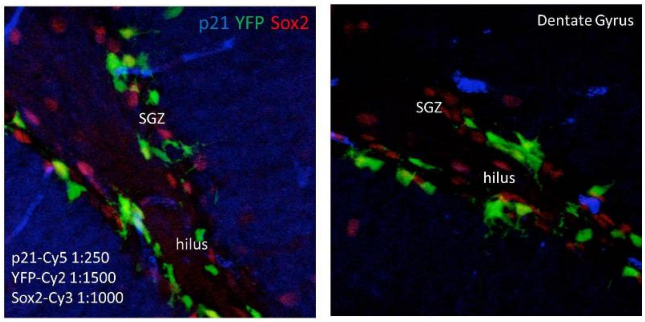
There are more publications referencing this product on: Product page

Images



Western Blotting

Image 1. 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 is loaded per lane. The blot was incubated with a 1:1,000 dilution of Mab anti-Human p21WAF1at room temperature for 30 min followed by detection using800 labeled Goat-a-Mouse IgG [H&L] 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 p21WAF1.800 fluorescence image was captured using the Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.



Immunofluorescence

Image 2. Immunohistochemistry of Mouse anti-p21 antibody. Tissue: human brain. Fixation: free-floating. Antigen retrieval: not required. Primary antibody: anti-human-p21 antibody at 1:250 for 1 h at RT. Co-stained with YFP and Sox2 antibodies. Secondary antibody: Peroxidase mouse secondary antibody at 1:10,000 for 45 min at RT. Localization: p21 is nuclear and cytoplasmic. Staining: p21 as precipitated blue with Cy5, YFP as precipitated green with Cy2, and Sox2 as precipitated red with Cy3. z-stacks from confocal expressed as one composite focal plain.