

Product datasheet

Anti-p21 antibody [WA-1] α b7903

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Overview

Product name	Anti-p21 antibody [WA-1]
Description	Mouse monoclonal [WA-1] to p21
Host species	Mouse
Specificity	p21 protein [wild-type p53-activated fragment 1 (WAF-1) or Cdk-interacting protein (CIP1)].
Tested applications	Suitable for: ICC/IF, IHC-Fr, ELISA, WB
Species reactivity	Reacts with: Rat, Human, Monkey
Immunogen	Full length native protein (purified) (Human).
General notes	This antibody was advertised as suitable for use in immunohistochemistry on paraffin-embedded sections (retrieval of antigen by heating in citrate buffer in microwave oven is essential). However, please be aware that customer feedback debates whether it is suitable in this application and we would be interested to hear from any other researchers who have tested the antibody in this technique.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 15mM Sodium Azide Constituents: PBS, pH 7.4
Purity	IgG fraction
Purification notes	Purified from ascites using precipitation methods. Purity >95 % (by PAGE).
Clonality	Monoclonal
Clone number	WA-1
Myeloma	unknown
Isotype	IgG1
Light chain type	unknown

Applications

Our [Abpromise guarantee](#) covers the use of **ab7903** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		1/100. PubMed: 18824567 For PMID 21788368, cells were fixed in methanol.
IHC-Fr		1/100. PubMed: 18824567
ELISA		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Predicted molecular weight: 18 kDa.

Target

Function

May be the important intermediate by which p53/TP53 mediates its role as an inhibitor of cellular proliferation in response to DNA damage. 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.

Tissue specificity

Expressed in all adult human tissues, with 5-fold lower levels observed in the brain.

Sequence similarities

Belongs to the CDI family.

Domain

The PIP-box K+4 motif mediates both the interaction with PCNA and the recruitment of the DCX(DTL) complex: while the PIP-box interacts with PCNA, the presence of the K+4 submotif, recruits the DCX(DTL) complex, leading to its ubiquitination.

The C-terminal is required for nuclear localization of the cyclin D-CDK4 complex.

Post-translational modifications

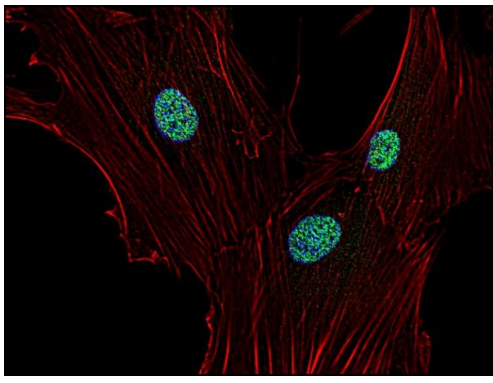
Phosphorylation of Thr-145 by Akt or of Ser-146 by PKC impairs binding to PCNA.

Phosphorylation at Ser-114 by GSK3-beta enhances ubiquitination by the DCX(DTL) complex. Ubiquitinated by MKRN1; leading to polyubiquitination and 26S proteasome-dependent degradation. Ubiquitinated by the DCX(DTL) complex, also named CRL4(CDT2) complex, leading to its degradation during S phase or following UV irradiation. Ubiquitination by the DCX(DTL) complex is essential to control replication licensing and is PCNA-dependent: interacts with PCNA via its PIP-box, while the presence of the containing the 'K+4' motif in the PIP box, recruit the DCX(DTL) complex, leading to its degradation.

Cellular localization

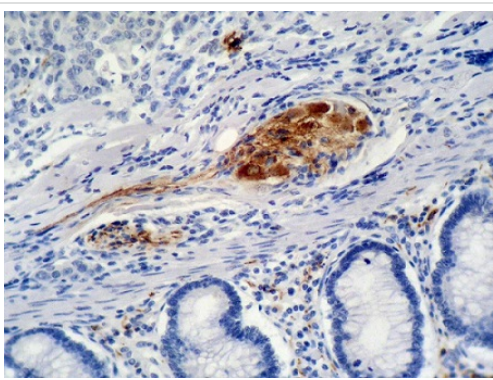
Cytoplasm. Nucleus.

Images



Immunocytochemistry/ Immunofluorescence - Anti-p21 antibody [WA-1] (ab7903)

Immunocytochemistry/ Immunofluorescence analysis of human primary fibroblasts labeling p21 with ab7903 (green). Actin cytoskeleton decorated by phalloidin (red) and cell nuclei stained with DAPI (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-p21 antibody [WA-1] (ab7903)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colon carcinoma tissue sections labeling p21 with ab7903.

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