

Anti-CDKN1A/P21 Antibody

HA500156



Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 18 kDa.

Description: p21 is a potent cyclin-dependent kinase inhibitor (CKI). The p21 (CIP1/WAF1) protein binds to and inhibits the activity of cyclin-CDK2, -CDK1, and -CDK4/6 complexes, and thus functions as a regulator of cell cycle progression at G1 and S phase. p21 interacts with proliferating cell nuclear antigen (PCNA), a DNA polymerase accessory factor, and plays a regulatory role in S phase DNA replication and DNA damage repair. This protein was reported to be specifically cleaved by CASP3-like caspases, which thus leads to a dramatic activation of CDK2, and may be instrumental in the execution of apoptosis following caspase activation. However p21 may inhibit apoptosis and does not induce cell death on its own. The ability of p21 to inhibit apoptosis in response to replication fork stress has also been reported. Studies of p53 dependent cell cycle arrest in response to DNA damage identified p21 as the primary mediator of downstream cell cycle arrest. p21 is negatively regulated by ubiquitin ligases both over the course of the cell cycle and in response to DNA damage. Cytoplasmic p21 expression can be significantly correlated with lymph node metastasis, distant metastases, advanced TNM stage, depth of invasion and OS.

Immunogen: Recombinant protein within human CDKN1A/P21 aa 1-164.

Positive control: MCF7 treated with 10 μ M NUTLIN 3A for 24 hours cell lysate, U-2 OS treated with 10 μ M NUTLIN 3A for 24 hours cell lysate, mouse colon tissue lysates, human esophagus tissue.

Subcellular location: Cytoplasm, Nucleus.

Database links: SwissProt: P38936 Human | P39689 Mouse

Recommended Dilutions:

WB	1:500-1:2,000
IHC-P	1:100-1:500

Storage Buffer: 1*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4 $^{\circ}$ C after thawing. Aliquot store at -20 $^{\circ}$ C. Avoid repeated freeze / thaw cycles.

Purity: Immunogen affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

Service mail:support@huabio.cn

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Images

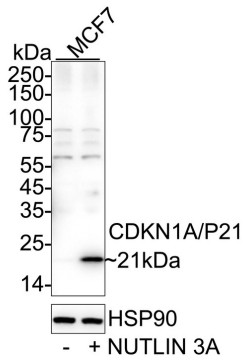


Fig1: Western blot analysis of CDKN1A/P21 on different lysates with Rabbit anti-CDKN1A/P21 antibody (HA500156) at 1/2,000 dilution.

Lane 1: MCF7 cell lysate

Lane 2: MCF7 treated with 10 μ M NUTLIN 3A for 24 hours cell lysate

Lysates/proteins at 20 μ g/Lane.

Predicted band size: 18 kDa

Observed band size: 21 kDa

Exposure time: 10 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA500156) at 1/2,000 dilution was used in 5% NFDM/TBST at 4 $^{\circ}$ C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Western blot analysis of CDKN1A/P21 on different lysates with Rabbit anti-CDKN1A/P21 antibody (HA500156) at 1/2,000 dilution.

Lane 1: U-2 OS cell lysate

Lane 2: U-2 OS treated with 10 μ M NUTLIN 3A for 24 hours cell lysate

Lysates/proteins at 20 μ g/Lane.

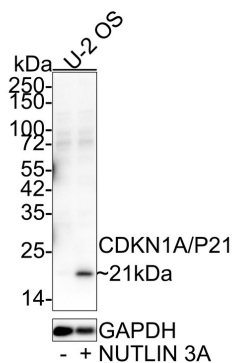
Predicted band size: 18 kDa

Observed band size: 21 kDa

Exposure time: 43 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA500156) at 1/2,000 dilution was used in 5% NFDM/TBST at 4 $^{\circ}$ C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.



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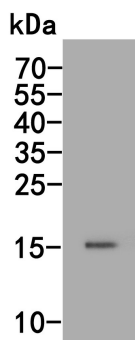


Fig3: Western blot analysis of CDKN1A/P21 on mouse colon tissue lysate. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (HA500156, 1/1,000) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:200,000 dilution was used for 1 hour at room temperature.

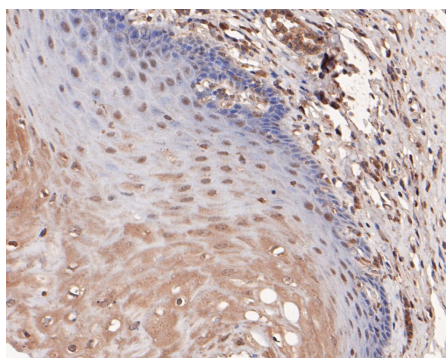


Fig4: Immunohistochemical analysis of paraffin-embedded human esophagus tissue using anti-CDKN1A/P21 antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 20 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA500156, 1/400) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Harper J.W. et. al. The p21 Cdk-interacting protein Cip1 is a potent inhibitor of G1 cyclin-dependent kinases. *Cell* 75:805-816(1993).

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