abcam

ab62364

Anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y]

Rabbit Recombinant Monoclonal p27 KIP 1 phospho S10 antibody. Suitable for WB, IP, Dot, IHC-P and reacts with Mouse, Rat, Human, Monkey, Synthetic peptide samples. Cited in 41 publications.

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP233(2)Y
Purification technique	Affinity purification Protein A
Specificity	This antibody detects p27 KIP 1 phosphorylated at Serine 10. The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.
Concentration	0.419 - 0.429 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	Human
Dilution info	1/500 - 1/20000
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse
Dilution info	-
Notes	Some customers have sucessfully used the antibody in ICC/IF. Please see the abreview for further details.

Species	Rat
Dilution info	-

Notes	Some customers have sucessfully used the antibody in ICC/IF. Please see the abreview for further details.

Species	Monkey
Dilution info	-
Notes	Some customers have sucessfully used the antibody in ICC/IF. Please see the abreview for further details.

Species	Human
Dilution info	-
Notes	Some customers have sucessfully used the antibody in ICC/IF. Please see the abreview for further details.

Species	Synthetic peptide
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Mouse
Dilution info	1/50
Notes	-

Species	Rat
Dilution info	1/50
Notes	-

Species	Monkey
Dilution info	1/50

Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt

Not recommended

Species	Rat, Monkey, Human, Mouse, Synthetic peptide
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide
Dilution info	1/1000
Notes	-

Expected

Species	Mouse, Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Monkey
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	**For unpurified use at 1/200 - 1/1500** The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat. Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

Species	Rat
Dilution info	-
Notes	-

Species	Mouse
Dilution info	1/100
Notes	**For unpurified use at 1/200 - 1/1500** The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat. Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Predicted

Species	Monkey
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The protein known as p27 KIP1 also referred to as p27 CDKN1B or KIP1 is a member of the kinase inhibitory protein family. It plays an important role in cell cycle regulation by inhibiting cyclin-dependent kinases (CDKs). p27 KIP1 weighs approximately 27 kDa and can be found in various tissues where it regulates cell proliferation. The protein functions as a suppressor by binding to cyclin-CDK complexes preventing the transition from G1 phase to S phase in the cell division cycle.
Biological function summary	The function of p27 KIP1 involves its role in controlling cell growth and division. It achieves this by becoming a part of larger protein complexes involving CDKs and cyclins. By directly interacting with these complexes p27 KIP1 modulates cell cycle progression therefore acting as a brake on cellular proliferation. The protein is important in maintaining proper cell cycle checkpoints and preventing uncontrolled cell growth which is essential for normal cellular functioning.

Pathways	The involvement of p27 KIP1 centers on cell cycle regulation and signaling pathways such as the PI3K/AKT pathway. Its interaction with CDKs and cyclins situates it within the core mechanisms that determine cell division timing. p27 KIP1 operates alongside other proteins like cyclin D and CDK4/6 fitting into the regulatory intricacies of these pathways. Proper functioning of these pathways ensures cellular homeostasis and prevents the development of oncogenic processes.
Associated diseases and disorders	Dysfunction of p27 KIP1 has links to cancer and neurodegenerative diseases. Low levels or mutations can lead to uncontrolled cell proliferation contributing to the development and progression of cancers such as breast cancer. p27 KIP1's role in neurodegenerative diseases involves its regulation of neuronal cell cycle re-entry with abnormalities potentially exacerbating conditions like Alzheimer's disease. In these contexts its interaction with proteins such as cyclin E and CDK2 becomes particularly relevant in understanding disease mechanisms.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

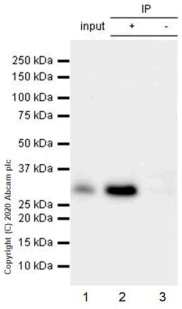
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

5 product images

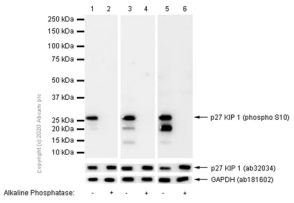


Immunoprecipitation - Anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y] (ab62364)

Purified ab62364 at 1/50 dilution (2µg) immunoprecipitating p27 KIP 1 in MCF7 whole cell lysate.
Lane 1 (input): MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysate 10µg
Lane 2 (+): ab62364 + MCF7 whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab62364 in MCF7 whole cell lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 27 kDa

All lanes:
Immunoprecipitation - Anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y] (ab62364)

Predicted band size: 22 kDa



Western blot - Anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y] (ab62364)

Blocking buffer: 5% NFDM/TBST

All lanes:
Western blot - Anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y] (ab62364) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate at 15 µg

Lane 2:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate, membrane treated with Alkaline Phosphatase for 1 hour at 15 µg

Lane 3:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate at 15 µg

Lane 4:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate, membrane treated with Alkaline Phosphatase for 1 hour at 15 µg

Lane 5:
C6 (Rat glial tumor glial cell) whole cell lysate at 15 µg

Lane 6:
C6 (Rat glial tumor glial cell) whole cell lysate, membrane treated with Alkaline Phosphatase for 1 hour at 15 µg

Secondary

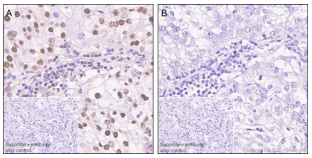
All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 22 kDa

Observed band size: 27 kDa

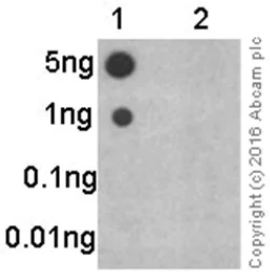
This data was developed using ab62364, the same antibody clone in a different buffer formulation.

Blocking buffer: 5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y] (ab62364)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colon cancer tissue sections labeling p27 KIP 1 with Purified ab62364 at 1:100 dilution (4.19 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.

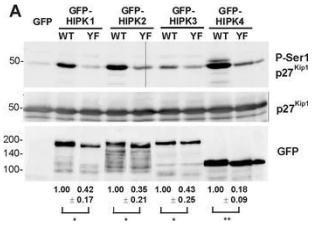


Dot Blot - Anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y] (ab62364)

Dot blot analysis of p27 KIP 1 (pS10) phospho peptide (Lane 1) and p27 KIP 1 non-phospho peptide (Lane 2) using ab62364 at 1/1000 dilution followed by Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution.

Blocking and Diluting buffer and concentration: 5% NFDM /TBST.

Exposure time: 3 minutes.



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Western blot - Anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y] (ab62364)

p27 KIP 1 (phospho S10) western blot using anti-p27 KIP 1 (phospho S10) antibody [EP233(2)Y] ab62364. Publication image and figure legend from van der Laden, J., Soppa, U., et al., 2015, Cell Commun Signal, PubMed 25630557.

ab62364 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab62364 please see the product overview.

Maximal activity of HIPKs depends on the activation loop tyrosine. Wild type GFP-HIPK fusion proteins and the respective Tyr⊠Phe mutants were immunoprecipitated from HeLa cells and subjected to kinase assays with recombinant GST-p27Kip1(A), myelin basic protein (B) or DYRKtide (C). GFP served as background control. A, Phosphorylation of p27Kip1 at Ser10 was detected by immunoblot with a phosphorylation-specific antibody. For quantitative evaluation, pSer10 immunoreactivity was normalised to GFP immunoreactivity, which reflects the amount of kinase in the reaction. The blots illustrate a representative experiment, and the relative catalytic activities as determined from 3–4 assays are shown below the panels (means ± SD). One-sample t test: *, $p < 0.05$; **, $p < 0.01$. B and C, Phosphorylation of MBP and DYRKtide was measured in triplicate as incorporation of 32P. Background values from the GFP control samples were subtracted and activities were normalised to the amount of kinase in the reaction as determined by GFP immunoreactivity. Column diagrams illustrate catalytic activities relative to HIPK2 (WT). The results were replicated in independent experiments, except for a missing value of HIPK1.

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