abcam

Product datasheet

Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free ab227911

Recombinant RabMAb

8 Images

Overview

Product name	Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free
Description	Rabbit monoclonal [EPR18388-138] to p27 KIP 1 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** WB, ICC/IF, IHC-P, IP
Species reactivity	**Reacts with:** Mouse, Rat
Immunogen	Recombinant fragment aa 1 to the C-terminus. The exact sequence is proprietary. Database link: P46414
Positive control	IHC: Mouse testis tissue.
General notes	Ab227911 is the carrier-free version of ab190851. This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes. Our carrier-free formats are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency. Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. ab227911 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm. *Maxpar® is a trademark of Fluidigm Canada Inc.* Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough. Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility. We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee. In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR18388-138
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab227911** in the following tested applications.

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

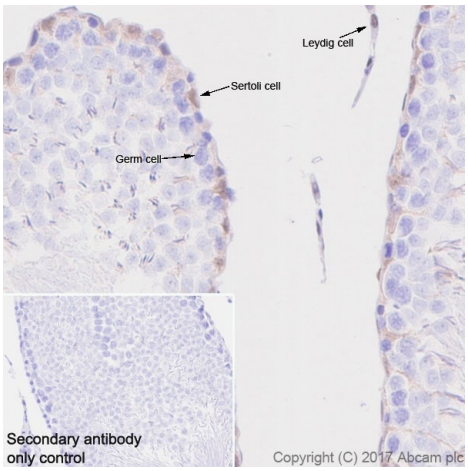
Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Detects a band of approximately 18, 27 kDa (predicted molecular weight: 22 kDa).
ICC/IF		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IP		Use at an assay dependent concentration.

Target

Function	Important regulator of cell cycle progression. Involved in G1 arrest. Potent inhibitor of cyclin E- and cyclin A-CDK2 complexes. Forms a complex with cyclin type D-CDK4 complexes and is involved in the assembly, stability, and modulation of CCND1-CDK4 complex activation. Acts either as an inhibitor or an activator of cyclin type D-CDK4 complexes depending on its phosphorylation state and/or stoichometry.

Tissue specificity	Expressed in all tissues tested. Highest levels in skeletal muscle, lowest in liver and kidney.
Involvement in disease	Defects in CDKN1B are the cause of multiple endocrine neoplasia type 4 (MEN4) [MIM:610755]. Multiple endocrine neoplasia (MEN) syndromes are inherited cancer syndromes of the thyroid. MEN4 is a MEN-like syndrome with a phenotypic overlap of both MEN1 and MEN2.
Sequence similarities	Belongs to the CDI family.
Domain	A peptide sequence containing only AA 28-79 retains substantial Kip1 cyclin A/CDK2 inhibitory activity.
Post-translational modifications	Phosphorylated; phosphorylation occurs on serine, threonine and tyrosine residues. Phosphorylation on Ser-10 is the major site of phosphorylation in resting cells, takes place at the G(0)-G(1) phase and leads to protein stability. Phosphorylation on other sites is greatly enhanced by mitogens, growth factors, cMYC and in certain cancer cell lines. The phosphorylated form found in the cytoplasm is inactivate. Phosphorylation on Thr-198 is required for interaction with 14-3-3 proteins. Phosphorylation on Thr-187, by CDK2 leads to protein ubiquitination and proteasomal degradation. Tyrosine phosphorylation promotes this process. Phosphorylation by PKB/AKT1 can be suppressed by LY294002, an inhibitor of the catalytic subunit of PI3K. Phosphorylation on Tyr-88 and Tyr-89 has no effect on binding CDK2, but is required for binding CDK4. Dephosphorylated on tyrosine residues by G-CSF. Ubiquitinated; in the cytoplasm by the KPC complex (composed of RNF123/KPC1 and UBAC1/KPC2) and, in the nucleus, by SCF(SKP2). The latter requires prior phosphorylation on Thr-187. Ubiquitinated; by a TRIM21-containing SCF(SKP2)-like complex; leads to its degradation. Subject to degradation in the lysosome. Interaction with SNX6 promotes lysosomal degradation.
Cellular localization	Nucleus. Cytoplasm. Endosome. Nuclear and cytoplasmic in quiescent cells. AKT-or RSK-mediated phosphorylation on Thr-198, binds 14-3-3, translocates to the cytoplasm and promotes cell cycle progression. Mitogen-activated UHMK1 phosphorylation on Ser-10 also results in translocation to the cytoplasm and cell cycle progression. Phosphorylation on Ser-10 facilitates nuclear export. Translocates to the nucleus on phosphorylation of Tyr-88 and Tyr-89. Colocalizes at the endosome with SNX6 and this leads to lysosomal degradation.

Images



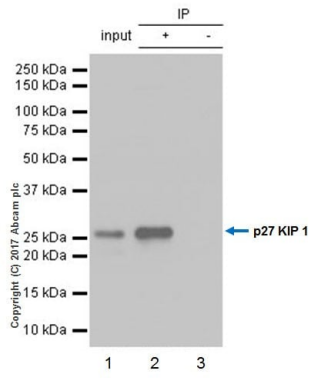
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free (ab227911)

Immunohistochemical analysis of paraffin-embedded rat testis tissue labeling p27 KIP 1 with ab190851 at 1/40000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), ready to use. Nuclear staining on Sertoli cells and Leydig cells of rat testis is observed (PMID: 10098522). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP), ready to use.

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab190851).



Immunoprecipitation - Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free (ab227911)

p27 KIP 1 was immunoprecipitated from 0.35 mg of C2C12 (mouse myoblast cell line) whole cell lysate with ab190851 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab190851 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used as for detection at 1/10000 dilution.

Lane 1: C2C12 whole cell lysate 10 µg (Input).

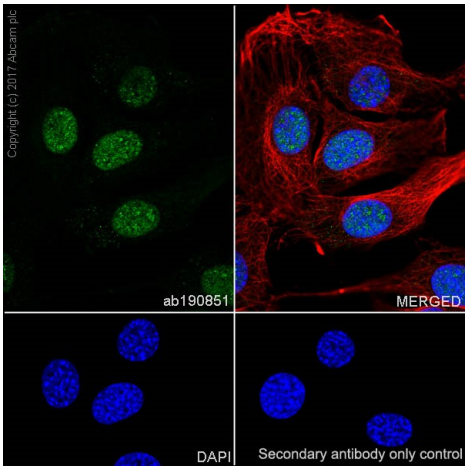
Lane 2: ab190851 IP in C2C12 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab190851 in C2C12 whole cell lysate.

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

Exposure time: 10 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab190851).



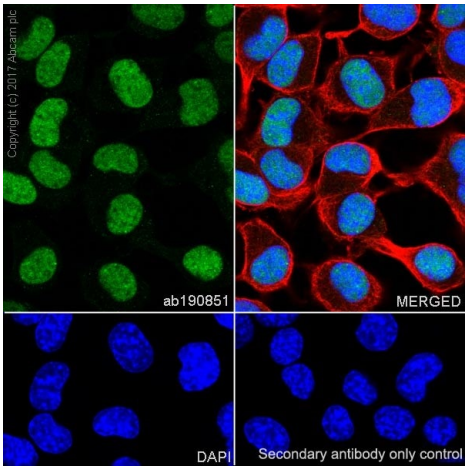
Immunocytochemistry/ Immunofluorescence - Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free (ab227911)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (mouse embryo fibroblast cell line) cells labeling p27 KIP 1 with ab190851 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing mainly nuclear staining in the NIH/3T3 cell line. The nuclear counter stain is DAPI (blue).

Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab190851).



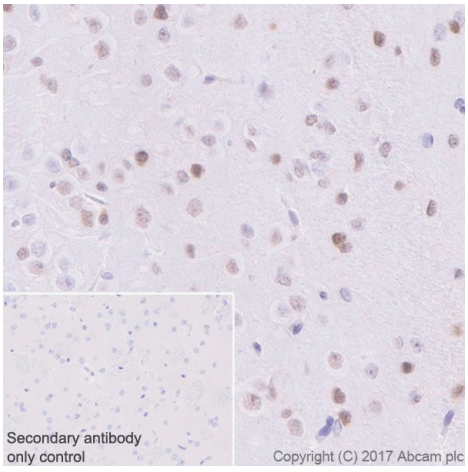
Immunocytochemistry/ Immunofluorescence - Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free (ab227911)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Neuro-2a (mouse neuroblastoma cell line) cells labeling p27 KIP 1 with ab190851 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing mainly nuclear staining in the Neuro-2a cell line. The nuclear counter stain is DAPI (blue).

Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab190851).



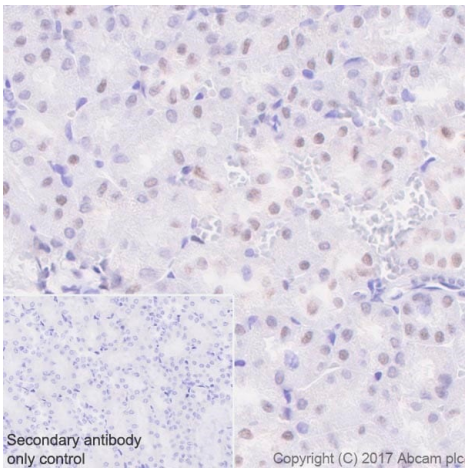
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free (ab227911)

Immunohistochemical analysis of paraffin-embedded rat cerebral cortex tissue labeling p27 KIP 1 with ab190851 at 1/40000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), ready to use. Nuclear staining in the rat cerebral cortex is observed (PMID: 19852587). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP), ready to use.

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab190851).



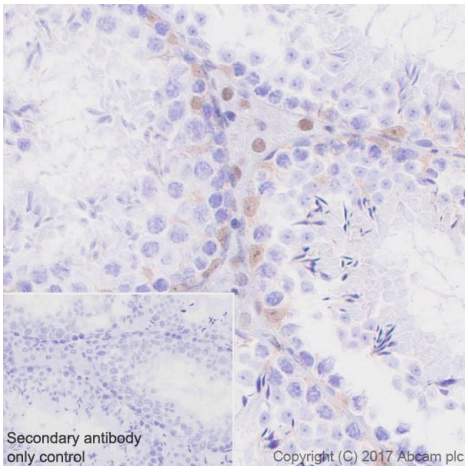
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free (ab227911)

Immunohistochemical analysis of paraffin-embedded mouse kidney tissue labeling p27 KIP 1 with ab190851 at 1/40000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), ready to use. Nuclear staining on mouse kidney is observed (PMID: 26823281). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP), ready to use.

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab190851).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free (ab227911)

Immunohistochemical analysis of paraffin-embedded mouse testis tissue labeling p27 KIP 1 with ab190851 at 1/40000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), ready to use. Nuclear staining on Leydig cells and Sertoli cells of mouse testis is observed (PMID: 10098522). Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP), ready to use.

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab190851).

Anti-p27 KIP 1 antibody [EPR18388-138] - BSA and Azide free (ab227911)

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