abcam

ab183039

Anti-SKP2 antibody [EPR3305(2)]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 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	EPR3305(2)
Purification technique	Affinity purification Protein A
Concentration	0.323 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/200
Notes	-

Species	Rat

Dilution info	1/200
Notes	-

Species	Human
Dilution info	1/200
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/70
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

IHC-P

Tested

Species	Human
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

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

Target data

See full target information SKP2

Function

Substrate recognition component of a SCF (SKP1-CUL1-F-box protein) E3 ubiquitin-protein ligase complex which mediates the ubiquitination and subsequent proteasomal degradation of target proteins involved in cell cycle progression, signal transduction and transcription (PubMed:9736735, PubMed:11931757, PubMed:12435635, PubMed:12769844, PubMed:12840033, PubMed:15342634, PubMed:15668399, PubMed:15949444, PubMed:16103164, PubMed:16262255, PubMed:16581786, PubMed:16951159, PubMed:17908926, PubMed:17962192, PubMed:22464731, PubMed:22770219, PubMed:32267835). Specifically recognizes phosphorylated CDKN1B/p27kip and is involved in regulation of G1/S transition (By similarity). Degradation of CDKN1B/p27kip also requires CKS1 (By similarity). Recognizes target proteins ORC1, CDT1, RBL2, KMT2A/MLL1, CDK9, RAG2, NBN, FOXO1, UBP43, YTHDF2, and probably MYC, TOB1 and TAL1 (PubMed:11931757, PubMed:12435635, PubMed:12769844, PubMed:12840033, PubMed:15342634, PubMed:15668399, PubMed:15949444, PubMed:16103164, PubMed:16581786, PubMed:16951159, PubMed:17908926, PubMed:17962192, PubMed:22464731, PubMed:32267835). Degradation of TAL1 also requires STUB1 (PubMed:17962192). Recognizes CDKN1A in association with CCNE1 or CCNE2 and CDK2 (PubMed:9736735, PubMed:16262255). Promotes ubiquitination and destruction of CDH1 in a CK1-dependent manner, thereby regulating cell migration (PubMed:22770219). Following phosphorylation in response to DNA damage, mediates 'Lys-63'-linked ubiquitination of NBN, promoting ATM recruitment to DNA damage sites and DNA repair via homologous recombination (PubMed:22464731). Through the ubiquitin-mediated proteasomal degradation of hepatitis C virus non-structural protein 5A, has an antiviral activity towards that virus.

Storage

Shipped at conditions	Conditional Ambient
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

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

What are the advantages of a recombinant monoclonal antibody?
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	S-phase kinase-associated protein 2 (SKP2) also known as FBL1 or p45 is an E3 ubiquitin ligase that tags proteins for degradation. It weighs around 48 kDa. SKP2 facilitates the transition from the G1 to S phase of the cell cycle by targeting cyclin-dependent kinase inhibitors for proteasomal destruction. Expressed in various tissues including key roles in proliferating cells SKP2 ensures the regulation of cell cycle progression and stability.
Biological function summary	SKP2 is part of the SCF (SKP1-CUL1-F-box) complex which is instrumental in controlling cell cycle and cell division. It regulates the degradation of p27^Kip1 and other cell cycle regulators. By modulating proteolysis SKP2 contributes to the maintenance of cell proliferation and it has essential roles in cellular responses to growth signals. Moreover SKP2 influences processes such as DNA replication through its effect on substrate interaction and ubiquitination.

Pathways	SKP2 functions inside the ubiquitin-proteasome system and impacts the PI3K/AKT signaling pathway. SKP2 advances cell cycle progression by associating with proteins like p27^Kip1 and CDK2 facilitating cell division. It modulates the phosphorylation state of numerous targets influencing signaling processes that control cell growth. This involvement aligns SKP2 with key cellular pathways that maintain cell survival and metabolic balance.
Associated diseases and disorders	SKP2 plays an important role in cancer and cardiovascular diseases. In various cancers the aberrant expression of SKP2 connects to excessive cell proliferation and tumor growth partially through interactions with oncoproteins like Myc. In cardiovascular conditions SKP2 influences cardiac hypertrophy and might link to proteins such as cyclin-dependent kinase inhibitors. The regulation by SKP2 affects these proteins' stability impacting disease progression and potential therapeutic interventions.

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

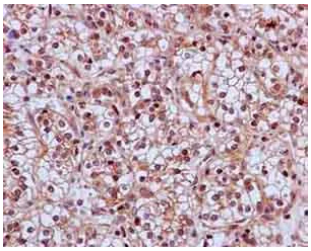
We do not recommend this combination. It is not covered by our product promise.

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.

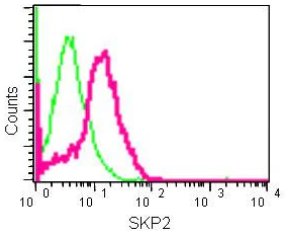
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SKP2 antibody [EPR3305(2)] (ab183039)

SKP2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SKP2 antibody

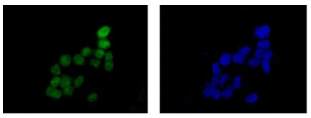
immunohistochemical analysis of paraffin embedded Human kidney clear cell carcinoma tissue labeling SKP2 with ab183039 at 1/50 followed by secondary staining with Ready to use HRP Polymer for Rabbit IgG and counterstained with Hematoxylin.
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-SKP2 antibody [EPR3305(2)] (ab183039)

SKP2 Flow Cytometry (Intracellular) staining using rabbit Anti-SKP2 antibody

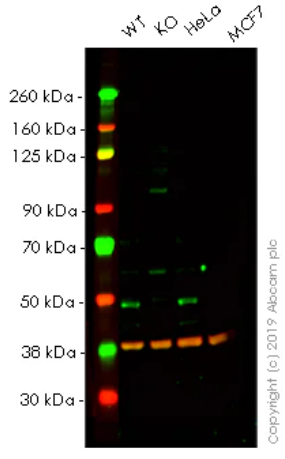
Intracellular flow cytometric analysis of 2% paraformaldehyde fixedHeLa cells labeling SKP2 with ab183039 at 1/70 followed byGoat anti rabbit IgG (FITC) at 1/150.Rabbit monoclonal IgG was used asIsotype control.



Immunocytochemistry/ Immunofluorescence - Anti-SKP2 antibody [EPR3305(2)] (ab183039)

SKP2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SKP2 antibody

Immunofluorescenct analysis of 4% paraformaldehyde fixed 293T cells labeling SKP2 with ab183039 at 1/100 followed by Goat anti rabbit IgG(Alexa Fluor® 488) at 1/200 (green). Cells were counter stained with Dapi (blue).



Western blot - Anti-SKP2 antibody [EPR3305(2)] (ab183039)

Lanes 1 - 4: Merged signal (red and green). Green - ab183039 observed at 52 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab183039 was shown to recognize in wild-type HAP1 cells as signal was lost at the expected MW in SKP2 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and SKP2 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% NF Milk. ab183039 and ab8245 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/200 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-SKP2 antibody [EPR3305(2)] (ab183039) at 1/200 dilution

Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
SKP2 knockout HAP1 whole cell lysate at 20 µg

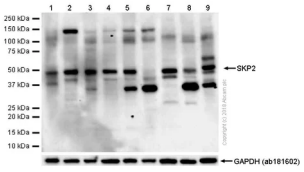
Lane 3:

HeLa whole cell lysate at 20 µg

Lane 4:
MCF7 whole cell lysate at 20 µg

Predicted band size: 45 kDa, 47 kDa, 55 kDa

Observed band size: 45 kDa, 55 kDa



Western blot - Anti-SKP2 antibody [EPR3305(2)] (ab183039)

SKP2 Western blot staining using rabbit Anti-SKP2 antibody

We recommend to increase the amount of samples or decrease antibody dilution to get clear bands.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-SKP2 antibody [EPR3305(2)] (ab183039) at 1/200 dilution

Lane 1:
NCCIT (Human pluripotent embryonic carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 2:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 3:
MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysates at 20 µg

Lane 4:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysates at 20 µg

Lane 5:
MDA-MB-231 (Human breast adenocarcinoma epithelial cell) whole cell lysates at 20 µg

Lane 6:
A549 (Human lung carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 7:
F9 (Mouse embryonal carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 8:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates at 20 µg

Lane 9:
C6 (Rat glial tumor glial cell) whole cell lysate at 20 µg

Secondary

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

Predicted band size: 47 kDa

Exposure time: 180s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.