abcam

ab68455

Anti-SKP2 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: 76.92% Trehalose, 17.31% Sodium chloride, 3.85% Disodium hydrogenorthophosphate
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human SKP2 aa 1-50. The exact immunogen used to generate this antibody is proprietary information. Database link Q13309
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	0.5 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
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	Blue Ice

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

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.

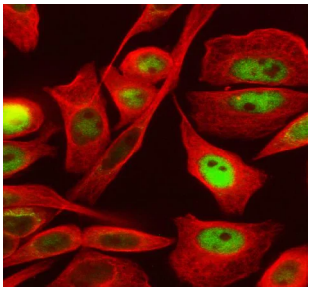
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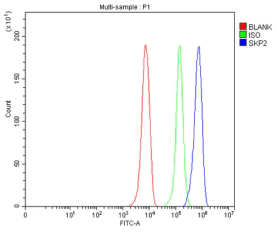
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-SKP2 antibody (ab68455)

SKP2 Immunocytochemistry/ Immunofluorescence staining of Human SiHa cell using rabbit Anti-SKP2 antibody

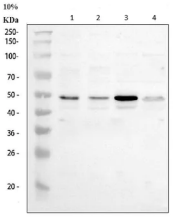
Immunofluorescence analysis of SKP2 using Anti-SKP2 antibody. SKP2 was detected in a immunocytochemical section of SiHa cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 minutes. The cells were blocked with 10% goat serum. The cells were then incubated with 5 µg/mL ab68455 and Mouse anti-Tubulin Alpha antibody overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibodies at 1:500 dilution and incubated for 30 minutes at 37°C. Visualized using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry - Anti-SKP2 antibody (ab68455)

SKP2 Flow Cytometry staining using rabbit Anti-SKP2 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed and permeabilized HepG2 cells. The cells were blocked with 10% normal goat serum, then incubated with ab68455 (1 µg/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (5-10 µg/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was Rabbit IgG (1 µg/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot - Anti-SKP2 antibody (ab68455)

SKP2 Western blot staining using rabbit Anti-SKP2 antibody

Blocking buffer: 5% non-fat milk/TBS
All lanes:
Western blot - Anti-SKP2 antibody (ab68455) at 0.5 µg/mL

Lane 1:
Human 293T whole cell lysates at 30 µg

Lane 2:
Human Jurkat whole cell lysates at 30 µg

Lane 3:
Human HepG2 whole cell lysates at 30 µg

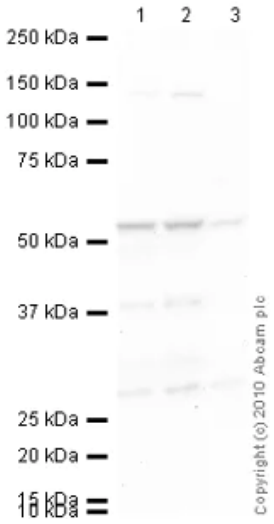
Lane 4:
Human MCF-7 whole cell lysates at 30 µg

Secondary

All lanes:
Goat anti-rabbit IgG-HRP secondary antibody at 1/5000 dilution

Performed under reducing conditions.

Observed band size: 48 kDa



Western blot - Anti-SKP2 antibody (ab68455)

The predicted molecular weight of SKP2 is 48 kDa (SwissProt), however we expect to observe a banding pattern at 53 kDa. Abcam welcomes customer feedback and would appreciate any comments regarding this product and the data presented above.
All lanes:
Western blot - Anti-SKP2 antibody (ab68455) at 1 µg/mL

Lane 1:
HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 10 µg

Lane 2:
HEK293 (Human embryonic kidney cell line) Whole Cell Lysate at 10 µg

Lane 3:
Human placenta tissue lysate - total protein (ab29745) at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 47 kDa

Observed band size: 29 kDa, 38 kDa, 53 kDa

Exposure time: 1min

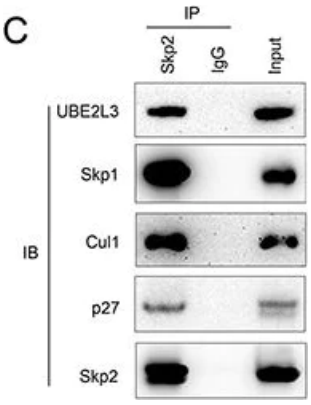


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-SKP2 antibody (ab68455)

SKP2 western blot using anti-SKP2 antibody ab68455. Publication image and figure legend from Ma, X., Zhao, J., et al., 2017, Oncotarget, PubMed 29137415.

ab68455 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 ab68455 please see the product overview.

UBE2L3 interacted with SCF (Skp2) complex and promoted p27kip1 ubiquitination and proteasomal degradation(A) Knockdown of UBE2L3 in A549 and NCI-H1299 cells promoted the protein level of p27kip1. (B) Overexpression of UBE2L3 in NCI-H460 and HCC827 cells decreased the protein level of p27kip1. (C) The association between UBE2L3 and SCF (Skp2) complex and p27kip1 was confirmed by immunoprecipitation and immunoblot assay. (D) Overexpression of UBE2L3 promoted the ubiquitination and proteasomal degradation of p27kip1. (E, F) The half-life of p27kip1 was evaluated by CHX assay after UBE2L3 overexpression.

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