abcam

ab76040

Anti-CSNK2A1 antibody [EP1963Y]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EP1963Y
Purification technique	Affinity purification Protein A
Concentration	0.506 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/500 - 1/1000
Notes	-

Species	Rat

Dilution info	1/500 - 1/1000
Notes	-

Species	Human
Dilution info	1/500 - 1/1000
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20 - 1/50
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	-

Target data

See full target information CSNK2A1

Function

Catalytic subunit of a constitutively active serine/threonine-protein kinase complex that phosphorylates a large number of substrates containing acidic residues C-terminal to the phosphorylated serine or threonine (PubMed:11239457, PubMed:11704824, PubMed:16193064, PubMed:18411307, PubMed:18583988, PubMed:18678890, PubMed:19188443, PubMed:20545769, PubMed:20625391, PubMed:22017874, PubMed:22406621, PubMed:24962073, PubMed:30898438, PubMed:31439799). Regulates numerous cellular processes, such as cell cycle progression, apoptosis and transcription, as well as viral infection (PubMed:12631575, PubMed:19387551, PubMed:19387552). May act as a regulatory node which integrates and coordinates numerous signals leading to an appropriate cellular response (PubMed:12631575, PubMed:19387551, PubMed:19387552). During mitosis, functions as a component of the p53/TP53-dependent spindle assembly checkpoint (SAC) that maintains cyclin-B-CDK1 activity and G2 arrest in response to spindle damage (PubMed:11704824, PubMed:19188443). Also required for p53/TP53-mediated apoptosis, phosphorylating 'Ser-392' of p53/TP53 following UV irradiation (PubMed:11239457). Phosphorylates a number of DNA repair proteins in response to DNA damage, such as MDC1, MRE11, RAD9A, RAD51 and HTATSF1, promoting their recruitment to DNA damage sites (PubMed:18411307, PubMed:18583988, PubMed:18678890, PubMed:20545769, PubMed:21482717, PubMed:22325354, PubMed:26811421, PubMed:28512243, PubMed:30898438, PubMed:35597237). Can also negatively regulate apoptosis (PubMed:16193064, PubMed:22184066). Phosphorylates the caspases CASP9 and CASP2 and the apoptotic regulator NOL3 (PubMed:16193064). Phosphorylation protects CASP9 from cleavage and activation by CASP8, and inhibits the dimerization of CASP2 and activation of CASP8 (PubMed:16193064). Phosphorylates YY1, protecting YY1 from cleavage by CASP7 during apoptosis (PubMed:22184066). Regulates transcription by direct phosphorylation of RNA polymerases I, II, III and IV (PubMed:12631575, PubMed:19387550, PubMed:19387551, PubMed:19387552, PubMed:23123191). Also phosphorylates and regulates numerous transcription factors including NF-kappa-B, STAT1, CREB1, IRF1, IRF2, ATF1, ATF4, SRF, MAX, JUN, FOS, MYC and MYB (PubMed:12631575, PubMed:19387550, PubMed:19387551, PubMed:19387552, PubMed:23123191). Phosphorylates Hsp90 and its co-chaperones FKBP4 and CDC37, which is essential for chaperone function (PubMed:19387550). Mediates sequential phosphorylation of FNIP1, promoting its gradual interaction with Hsp90, leading to activate both kinase and non-kinase client proteins of Hsp90 (PubMed:30699359). Regulates Wnt signaling by phosphorylating CTNNB1 and the transcription factor LEF1 (PubMed:19387549). Acts as an ectokinase that phosphorylates several extracellular proteins (PubMed:12631575, PubMed:19387550, PubMed:19387551, PubMed:19387552). During viral infection, phosphorylates various proteins involved in the viral life cycles of EBV, HSV, HBV, HCV, HIV, CMV and HPV (PubMed:12631575, PubMed:19387550, PubMed:19387551, PubMed:19387552). Phosphorylates PML at 'Ser-565' and primes it for ubiquitin-mediated degradation (PubMed:20625391, PubMed:22406621). Plays an important role in the circadian clock function by phosphorylating BMAL1 at 'Ser-90' which is pivotal for its interaction with CLOCK and which controls CLOCK nuclear entry (By similarity). Phosphorylates CCAR2 at 'Thr-454' in gastric carcinoma tissue (PubMed:24962073). Phosphorylates FMR1, promoting FMR1-dependent formation of a membraneless compartment

(PubMed:30765518, PubMed:31439799). May phosphorylate histone H2A on 'Ser-1' (PubMed:38334665).

Storage

Shipped at conditions	Conditional Ambient
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.

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.

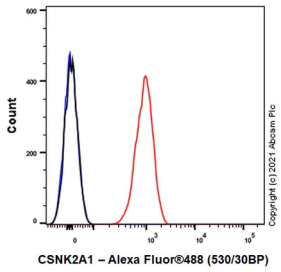
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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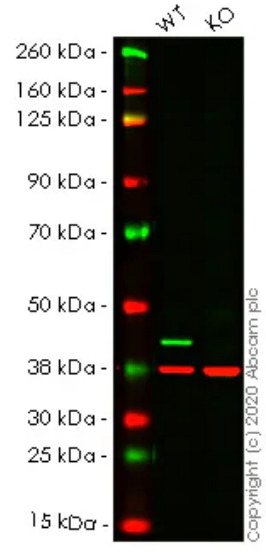
6 product images



Flow Cytometry (Intracellular) - Anti-CSNK2A1 antibody [EP1963Y] (ab76040)

CSNK2A1 Flow Cytometry (Intracellular) staining of Jurkat (Human T cell leukemia T lymphocyte) cells using rabbit Anti-CSNK2A1 antibody

Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling CSNK2A1 with purified ab76040 at 1:20 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as a isotype control. Cell without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.



Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040)

CSNK2A1 Western blot staining using rabbit Anti-CSNK2A1 antibody

Lanes 1-2: Merged signal (red and green). Green - ab76040 observed at 45 kDa. Red - loading control ab8245 observed at 37 kDa.
ab76040 Anti-CSNK2A1 antibody [EP1963Y] was shown to specifically react with CSNK2A1 in wild-type HCT116 cells. Loss of signal was observed when knockout cell line ab266864 (knockout cell lysate ab257401) was used. Wild-type and CSNK2A1 knockout samples were subjected to SDS-PAGE. ab76040 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040) at 1/1000 dilution

Lane 1:
Wild-type HCT116 cell lysate at 20 µg

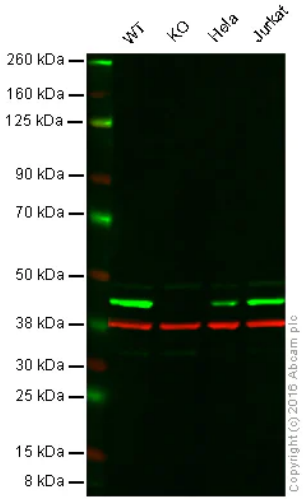
Lane 2:
CSNK2A1 knockout HCT116 cell lysate at 20 µg

Lane 2:
Western blot - Human CSNK2A1 knockout HCT116 cell lysate (ab257401) at 20 µg

Performed under reducing conditions.

Predicted band size: 45 kDa

Observed band size: 45 kDa



Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040)

CSNK2A1 Western blot staining using rabbit Anti-CSNK2A1 antibody

Lanes 1 - 4: Merged signal (red and green). Green – ab76040 observed at 45 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab76040 was shown to specifically react with CSNK2A1 when CCSNK2A1 knockout samples were used. Wild-type and CSNK2A1 knockout samples were subjected to SDS-PAGE. ab76040 and ab8245 (loading control to GAPDH) were diluted at 1/500 and 1/10 000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040) at 1/500 dilution

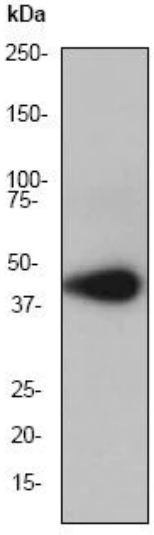
Lane 1:
Wild-type HAP1 cell lysate at 20 µg

Lane 2:
CSNK2A1 knockout HAP1 cell lysate at 20 µg

Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
Jurkat cell lysate at 20 µg

Predicted band size: 45 kDa



Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040)

All lanes:
Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040) at 1/1000 dilution

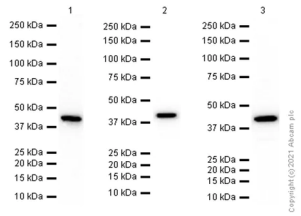
All lanes:
HeLa cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 45 kDa

Observed band size: 45 kDa



Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
All lanes:
Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040) at 1/1000 dilution

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

Lane 2:
Mouse brain lysate at 15 µg

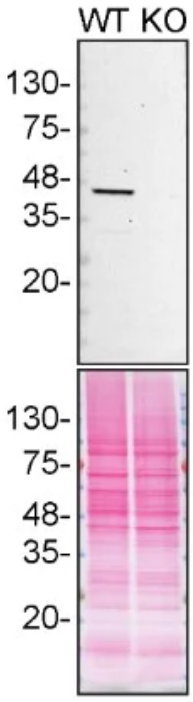
Lane 3:
Rat brian lysate at 15 µg

Secondary

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

Predicted band size: 45 kDa

Observed band size: 45 kDa



Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040)

ab76040 was shown to react with CSNK2A1 in wild-type HAP1 cells in Western blot with loss of signal observed in a CSNK2A1 knockout cell line. Wild-type HAP1 and CSNK2A1 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 5% milk in TBST for 1 hr before incubation with ab76040 overnight at 4 °C at a 1/500 dilution. Blots were incubated with secondary antibodies at 0.2 µg/mL before imaging.

These data were provided by YCharOS Inc., an open science company with the mission of characterizing commercially available antibody reagents for all human proteins. Abcam and YCharOS are working together to help address the reproducibility crisis by enabling the life science community to better evaluate commercially available antibodies.
All lanes:
Western blot - Anti-CSNK2A1 antibody [EP1963Y] (ab76040) at 1/500 dilution

Lane 1:
Wild-type HAP1 lysate at 30 µg

Lane 2:
CSNK2A1 knock-out HAP1 lysate at 30 µg

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