abcam

ab24561

Anti-Cytokeratin 18 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Purification technique	Affinity purification Immunogen
Concentration	0.9 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Predicted

Species	Rat
Dilution info	-

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^5 Cells
Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL

Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information KRT18

Function	Required for the formation of KRT8/KRT18 filaments that are involved in ARHGEF40-mediated actin stress fiber formation and tensional force-induced stress fiber formation and reinforcement (PubMed:26823019). Also acts downstream of ROCK kinase activation as part of a positive feedback mechanism in response to cellular mechanical stress loading (PubMed:26823019). Organization and orientation of KRT18 filaments are responsible for the properly elongated morphology of epithelial tubules (By similarity). Involved in the uptake of thrombin-antithrombin complexes by hepatic cells (By similarity). When phosphorylated, plays a role in filament reorganization. Involved in the delivery of mutated CFTR to the plasma membrane. Together with KRT8, is involved in interleukin-6 (IL-6)-mediated barrier protection.

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

Supplementary info

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

Activity summary	Cytokeratin 18 (CK18) also known as Keratin 18 or KRT18 is a type I intermediate filament protein with a molecular weight of approximately 45 kDa. It plays a mechanical role in stabilizing epithelial cell structure and function. CK18 is expressed in single-layered epithelial tissues such as the liver intestine and pancreas. It partners with the type II keratin usually KRT8 to form a stable cytoskeletal network in these cells providing structural integrity and resilience.
Biological function summary	CK18 maintains cellular integrity and mediates resistance to mechanical and non-mechanical stresses in epithelial cells. It forms heterodimers with KRT8 participating in a complex network of filaments important for maintaining cell shape and stability. This organization plays a role in managing cell survival during stress and apoptosis helping regulate cellular functions and responses in tissues where it is expressed.
Pathways	Cytokeratin 18 is involved in the apoptosis and cellular stress response pathways. It interacts with proteins such as caspases during apoptosis facilitating cytoskeletal reorganization and cell fragmentation. CK18 in coordination with KRT8 also participates in signaling pathways that regulate cell cycle and apoptotic processes underlining its importance in cellular turnover and tissue homeostasis.
Associated diseases and disorders	Elevated levels of CK18 fragments are often observed in cases of non-alcoholic steatohepatitis (NASH) and breast cancer. It serves as a biomarker for liver injury due to its abundance in hepatocytes and release upon cell death. In breast cancer alterations in CK18 expression can reflect disease progression where it interacts with other proteins such as vimentin indicating epithelial-to-mesenchymal transition a process that facilitates metastasis.

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

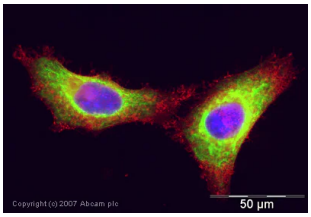
We do not recommend this combination. It is not covered by our product promise.

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.

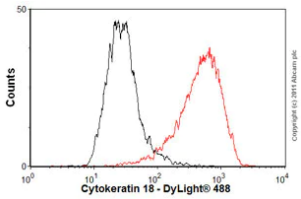
4 product images



Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 18 antibody (ab24561)

Cytokeratin 18 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Cytokeratin 18 antibody

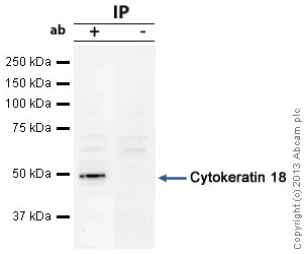
ICC/IF image of ab24561 stained human HeLa cells. The cells were PFA fixed (10 min), permabilised in TBS-T (20 min) and incubated with the antibody (ab24561, 1µg/ml) for 1h at room temperature. 1%BSA / 10% normal goat serum / 0.3M glycine was used to quench autofluorescence and block non-specific protein-protein interactions. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red). DAPI was used to stain the cell nuclei (blue).



Flow Cytometry (Intracellular) - Anti-Cytokeratin 18 antibody (ab24561)

Cytokeratin 18 Flow Cytometry (Intracellular) staining using rabbit Anti-Cytokeratin 18 antibody

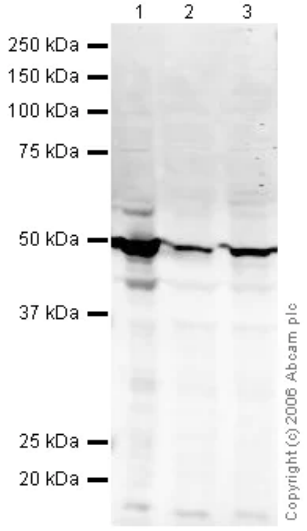
Overlay histogram showing MCF7 cells stained with ab24561 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab24561, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (polyclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in MCF7 cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunoprecipitation - Anti-Cytokeratin 18 antibody (ab24561)

Cytokeratin 18 was immunoprecipitated using 0.5mg A431 whole cell extract, 5µg of Rabbit polyclonal to Cytokeratin 18 and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, A431 whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70ºC; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab24561.
Secondary: Mouse monoclonal [SB62a] Secondary Antibody to Rabbit IgG light chain (HRP) (ab99697).
Band: 48kDa; Cytokeratin 18
All lanes:
Immunoprecipitation - Anti-Cytokeratin 18 antibody (ab24561)

Predicted band size: 48 kDa



Western blot - Anti-Cytokeratin 18 antibody (ab24561)

Cytokeratin 18 Western blot staining using rabbit Anti-Cytokeratin 18 antibody

All lanes:
Western blot - Anti-Cytokeratin 18 antibody (ab24561) at 1 µg/mL

Lane 1:
HeLa whole cell lysate at 20 µg

Lane 2:
Western blot - Jurkat whole cell lysate (ab7899) at 20 µg

Lane 3:
Western blot - A-431 whole cell lysate (ab7909) at 20 µg

Secondary

All lanes:
Goat polyclonal to Rabbit IgG (Alexa Fluor® 680) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 48 kDa

Observed band size: 48 kDa

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