abcam

ab9217

Anti-Cytokeratin 18 antibody [RGE53]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Full Length Protein corresponding to Human KRT18. The exact immunogen used to generate this antibody is proprietary information. Database link P05783
Clone number	RGE53
Purification technique	Affinity purification Protein G
Specificity	This antibody reacts exclusively with cytokeratin 18 which is present in glandular epithelial cells of the digestive, respiratory, and urogenital tracts, endocrine and exocrine cells and mesothelial cells, as well as adenocarcinomas originating from them
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Pig, Zebrafish
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse, Rat, Rabbit, Chicken, Hamster, Dog
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Expected

Species	Pig, Zebrafish
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse, Rat, Rabbit, Chicken, Hamster, Dog
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Pig
Dilution info	1/100 - 1/200
Notes	-

Species	Zebrafish
Dilution info	1/100 - 1/200
Notes	-

Species	Human
Dilution info	1/100 - 1/200
Notes	-

Predicted

Species	Mouse, Rat, Rabbit, Chicken, Hamster, Dog
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.

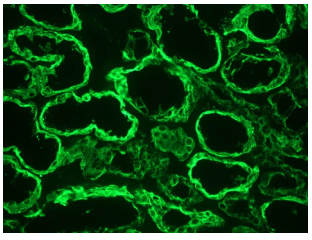
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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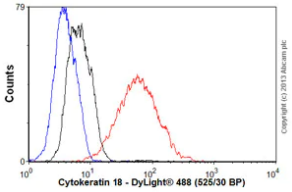
10 product images



Immunohistochemistry (Frozen sections) - Anti-Cytokeratin 18 antibody [RGE53] (ab9217)

Cytokeratin 18 Immunohistochemistry (Frozen sections) staining using mouse Anti-Cytokeratin 18 antibody

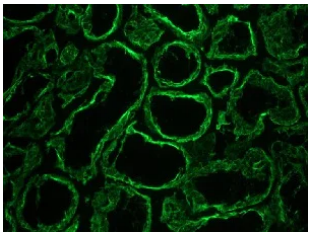
Immunohistochemistry on frozen section of human kidney epithelium.



Flow Cytometry - Anti-Cytokeratin 18 antibody [RGE53] (ab9217)

Cytokeratin 18 Flow Cytometry staining using mouse Anti-Cytokeratin 18 antibody

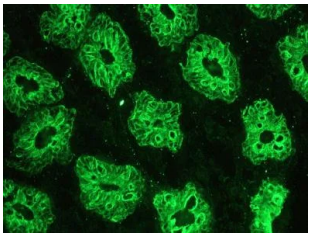
Overlay histogram showing MCF7 cells stained with ab9217 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab9217, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line). Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in MCF7 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



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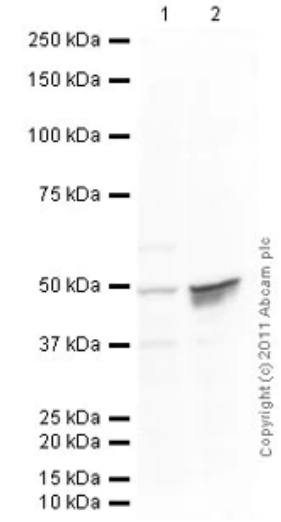
Immunohistochemistry on frozen section of human kidney epithelium



Immunohistochemistry (Frozen sections) - Anti-Cytokeratin 18 antibody [RGE53] (ab9217)

Cytokeratin 18 Immunohistochemistry (Frozen sections) staining using mouse Anti-Cytokeratin 18 antibody

Immunohistochemistry on frozen section of human colon



Western blot - Anti-Cytokeratin 18 antibody [RGE53] (ab9217)

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

All lanes:
Western blot - Anti-Cytokeratin 18 antibody [RGE53] (ab9217) at 5 µg/mL

Lane 1:
HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 20 µg

Lane 2:
MCF7 (Human breast adenocarcinoma cell line) Whole Cell Lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

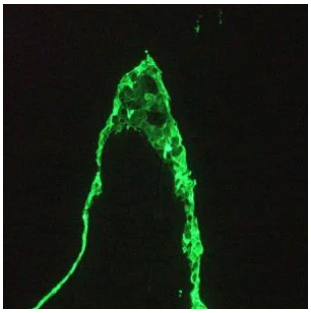
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 48 kDa

Observed band size: 48 kDa

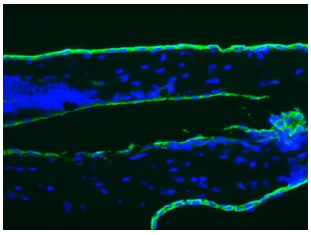
Exposure time: 30s



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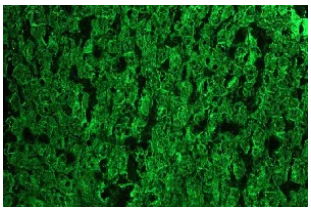
Immunofluorescence staining of 1 month old zebrafish embryo.



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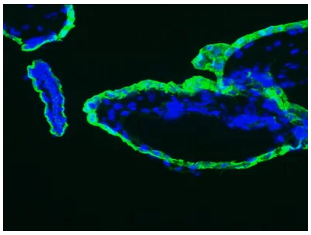
Immunofluorescence staining images of 9 day old zebrafish embryos.
ab9217 reacts with with intestinal epithelium and epidermis. Frozen sample treated with Acetone:Methanol 1:1, antibody diluted 1/100 and incubated for 45 minutes at room temperature.0



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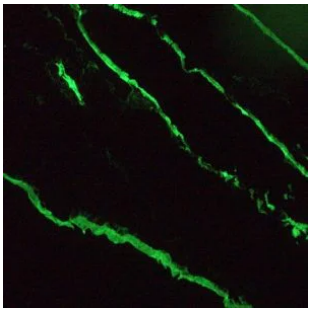
Immunohistochemistry on frozen section of swine liver hepatocytes



Immunohistochemistry (Frozen sections) - Anti-Cytokeratin 18 antibody [RGE53] (ab9217)

Cytokeratin 18 Immunohistochemistry (Frozen sections) staining using mouse Anti-Cytokeratin 18 antibody

Immunofluorescence staining images of 9 day old zebrafish embryos.
ab9217 reacts with intestinal epithelium and epidermis. Frozen sample treated with Acetone:Methanol 1:1, antibody diluted 1/100 and incubated for 45 minutes at room temperature.



Immunohistochemistry (Frozen sections) - Anti-Cytokeratin 18 antibody [RGE53] (ab9217)

Cytokeratin 18 Immunohistochemistry (Frozen sections) staining using mouse Anti-Cytokeratin 18 antibody

immunofluorescence staining of epithelial tissues in a 2 days old zebrafish embryo.

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