abcam

ab7797

Anti-Cytokeratin 18 antibody [DC 10]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing PMC42 cell line protein. The exact immunogen used to generate this antibody is proprietary information.
Clone number	DC 10
Purification technique	Affinity purification Protein A
Specificity	Specific reactivity for the cytokeratin 18 (45 kD) polypeptide.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS

Reactivity data

WB

Tested

Species	Human
Dilution info	1-2 µg/mL

Notes	-

IHC-P

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/400
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	6-16 µg/mL
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

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

Notes

This antibody reacts with a wide variety of simple epithelia. It does not react with stratified squamous epithelia. It reacts with epithelial tumors of the gastrointestinal tract, lung, breast, pancreas, ovary, and thyroid.

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

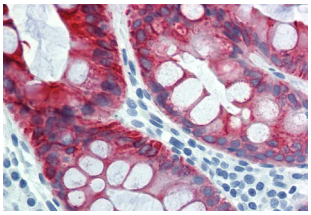
We do not recommend this combination. It is not covered by our product promise.

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.

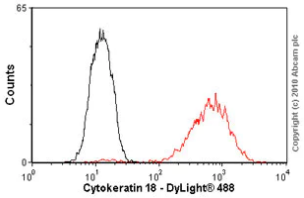
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [DC 10] (ab7797)

Cytokeratin 18 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Cytokeratin 18 antibody

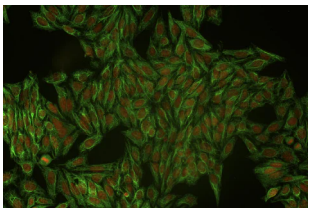
Immunohistochemistry staining of human colon (paraffin sections) using ab7797 10 µg/ml



Flow Cytometry (Intracellular) - Anti-Cytokeratin 18 antibody [DC 10] (ab7797)

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

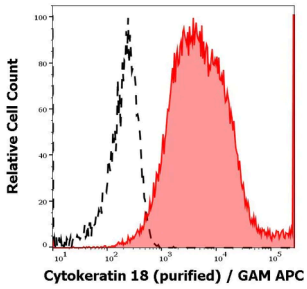
Overlay histogram showing MCF-7 cells stained with ab7797 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Triton for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab7797, 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. Acquisition of >5,000 events was performed. This antibody gave a positive signal in MCF-7 cells fixed with methanol (5 min)/permeabilized in 0.1% PBS-Triton used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 18 antibody [DC 10] (ab7797)

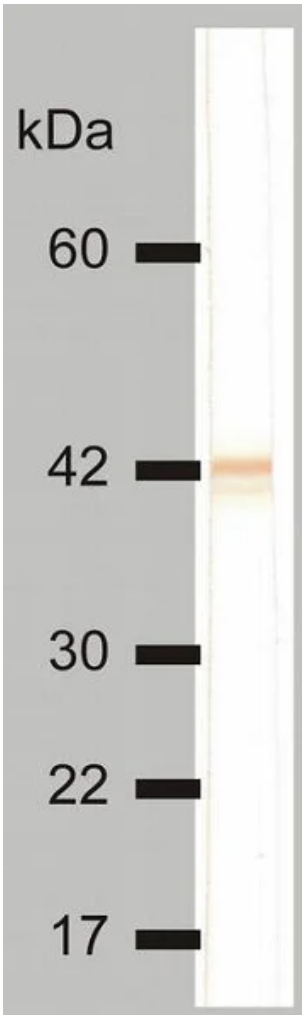
Cytokeratin 18 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Cytokeratin 18 antibody

Immunocytochemistry staining of Cytokeratin 18 in Hep-2 cells using mouse monoclonal antibody DC-10 (ab7797, diluted 1/400), detected with GAM IgG-Alexa Fluor®488 (diluted 1/200; green), cell nuclei stained with PI (1 µg/ml; orange).



Flow Cytometry (Intracellular) - Anti-Cytokeratin 18 antibody [DC 10] (ab7797)

Flow cytometry analysis (intracellular staining) of MCF-7 cells (red-filled) stained using ab7797 anti-cytokeratin 18 purified antibody (concentration in sample 0,6 µg/ml, GAM APC). Isotype control: Caco-2 cells (black-dashed).



Western blot - Anti-Cytokeratin 18 antibody [DC 10] (ab7797)

Cytokeratin 18 Western blot staining of HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate using mouse Anti-Cytokeratin 18 antibody

All lanes:
Western blot - Anti-Cytokeratin 18 antibody [DC 10] (ab7797) at 1 µg/mL

All lanes:
HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate

Predicted band size: 48 kDa

Observed band size: 40 kDa

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