abcam

ab240054

Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR1626
Purification technique	Affinity purification Protein A
Concentration	1.016 - 1.077 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Rat
Dilution info	-

Notes	Perform antigen retrieval before commencing with IHC staining protocol.

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

WB

Expected

Species	Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab240054 is the carrier-free version of ab133263.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

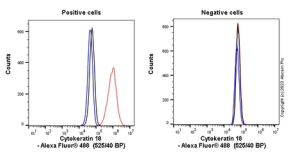
We do not recommend this combination. It is not covered by our product promise.

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.

15 product images



Flow Cytometry (Intracellular) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).

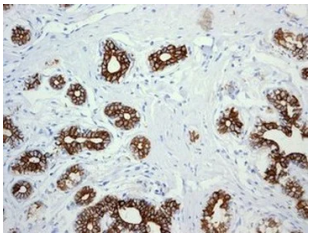
Flow cytometry overlay histogram showing left MCF7 positive cells and right negative A375 stained with ab133263 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab133263) (1x 106 in 100µl at 0.04µg/ml (1/51000)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Isotype control antibody (black line) was Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.

This antibody gave a positive signal in MCF7 Fixed with 80% methanol (5 min) / permeabilised with 0.1% PBS-Triton X-100 for 15 min under the same conditions.

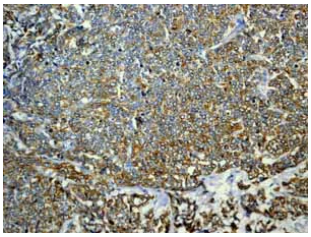


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

Immunohistochemical analysis of paraffin embedded Human breast tissue labelling Cytokeratin 18 with ab133263 at 1/250.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



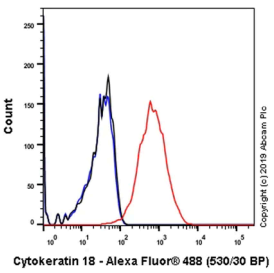
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

ab133263 showing positive staining in Breast carcinoma tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).

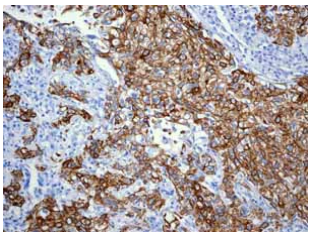
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Cytokeratin 18 with Purified ab133263 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) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue). This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263)



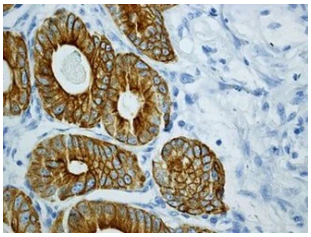
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

ab133263 showing positive staining in Lung adenocarcinoma tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

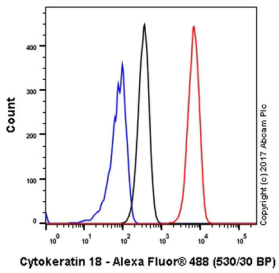


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

Immunohistochemical analysis of paraffin embedded human gastric adenocarcinoma tissue labeling Cytokeratin 18 with ab133263 at 1/250.
This data was developed using the same antibody clone in a different buffer formulation containing tissue culture supernatant, tris glycine, BSA, glycerol and sodium azide (ab133263).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

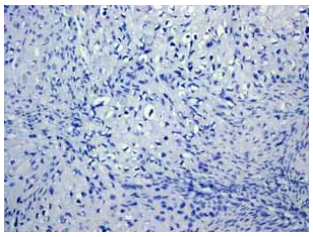


Flow Cytometry (Intracellular) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Cytokeratin 18 with unpurified ab133263 at 1/20 dilution (10ug/ml) (red). Cells were fixed with 80% methanol and permeabilised with 0.1% Tween-20. A Goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black)

(ab172730) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).



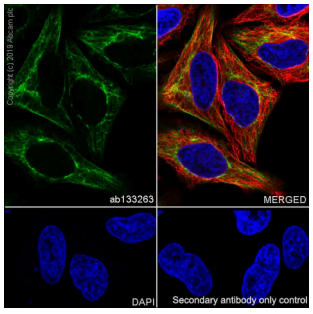
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

ab133263 showing negative staining in Cervical squamous carcinoma tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).

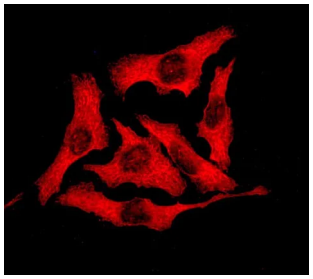
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

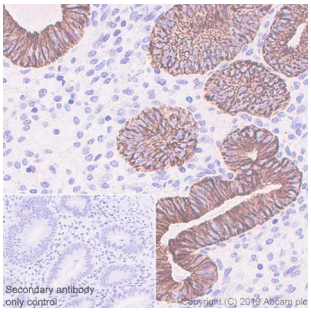
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Cytokeratin 18 with Purified ab133263 at 1:50 dilution (2.26 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263)



Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

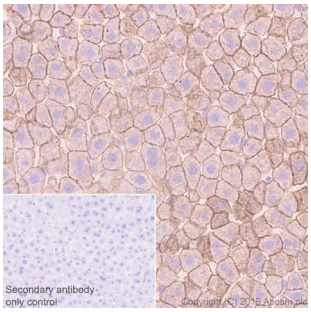
Immunofluorescence analysis of HeLa cells labelling Cytokeratin 18 with ab133263 at 1/250. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

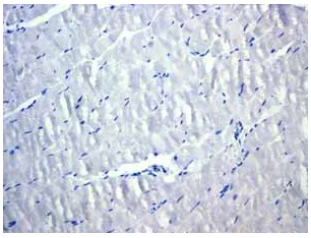
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human endometrium tissue sections labeling Cytokeratin 18 with Purified ab133263 at 1:500 dilution (0.23 µg/ml). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). Purified)ImmunoHistoProbe one step HRP Polymer (ready to use) was used for detection. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat liver tissue sections labeling Cytokeratin 18 with Purified ab133263 at 1:1000 dilution (0.113 µg/ml). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). Purified)ImmunoHistoProbe one step HRP Polymer (ready to use) was used for detection. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263)

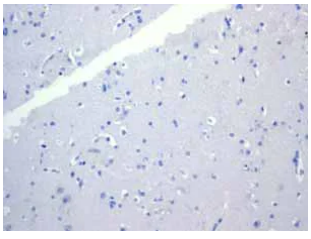


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

ab133263 showing negative staining in Skeletal muscle tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

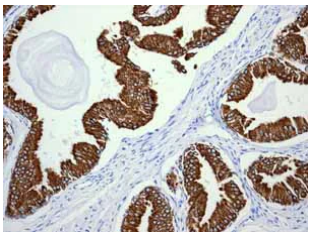


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

ab133263 showing negative staining in Normal brain tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 18 antibody [EPR1626] - BSA and Azide free (ab240054)

ab133263 showing positive staining in Prostatic carcinoma tissue.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab133263).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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