abcam

ab239918

Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR3671
Purification technique	Affinity purification Protein A
Dissociation constant	1.2 x 10^{-11} M
Concentration	0.996 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human

Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information Keratin, type I cytoskeletal 13

Function	Type 1 keratin (Probable). Maintains postnatal tongue mucosal cell homeostasis and tissue organization in response to mechanical stress, potentially via regulation of the G1/S phase cyclins CCNE1 and CCNE2 (By similarity).

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

ab239918 is the carrier-free version of ab92551.

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.

Species reactivity

Rat: We have preliminary internal testing data to indicate this antibody may not react with this species.
Please contact us for more information.

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 13 also known as KRT13 or CK13 is a type I intermediate filament protein weighing approximately 44 kDa. It is one of the cytokeratin types that plays a critical role in the mechanical stability and integrity of epithelial cells. Cytokeratin 13 is expressed in the stratified squamous epithelium particularly in the upper layers of non-cornified epithelia which include the esophagus tongue and cervix. This protein forms heteropolymers with type II keratins contributing to the cytoskeletal filament network within epithelial cells.
Biological function summary	This protein participates in maintaining the structural framework and dynamics within epithelial tissues. As part of the cytoskeletal complex cytokeratin 13 supports cellular resilience against mechanical stress. It interacts with other

	cytokeratins contributing to the formation of a robust keratin filament network essential for epithelial cell function and differentiation. Its expression and regulation are key to the homeostasis of the tissues where it is found ensuring proper cell division and tissue integrity.
Pathways	Cytokeratin 13 integrates into epithelial cell differentiation and repair processes. It is involved in the epithelial-mesenchymal transition (EMT) pathway important for tissue development wound healing and cancer metastasis. During the EMT process cytokeratin 13 often works alongside proteins like E-cadherin and Vimentin mediating changes in epithelial cell architecture and polarity. This modulation is essential for cellular plasticity and response to environmental cues.
Associated diseases and disorders	Cytokeratin 13 has associations with certain epithelial tissue abnormalities such as oral squamous cell carcinoma and a subgroup of inherited blistering diseases like epidermolysis bullosa. In oral squamous cell carcinoma dysregulation of cytokeratin 13 expression may indicate tumor progression and metastasis. In epidermolysis bullosa mutations affecting keratin interactions including those with other keratins like cytokeratin 14 can lead to fragile skin and mucosal surfaces resulting in increased susceptibility to physical damage and impaired healing.

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

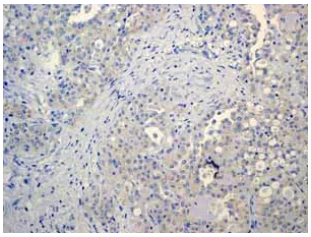
We do not recommend this combination. It is not covered by our product promise.

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.

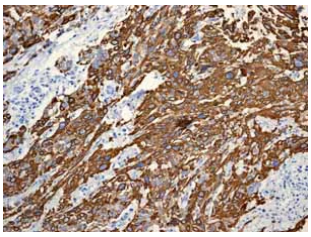
10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 13 antibody

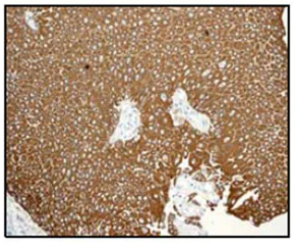
ab92551 showing negative staining in human Breast carcinoma tissue. Antigen retrieval was heat mediated via the pressure cooker method before commencing with IHC staining protocol.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab92551).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 13 antibody

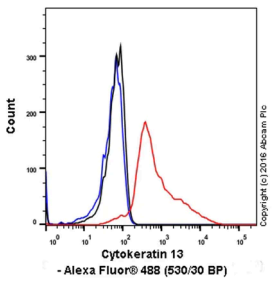
ab92551 showing positive staining in human Cervical carcinoma tissue. Antigen retrieval was heat mediated via the pressure cooker method before commencing with IHC staining protocol.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab92551).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 13 antibody

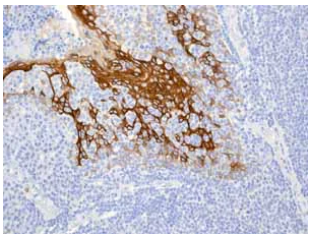
ab92551 staining Cytokeratin 13 in formalin-fixed, paraffin-embedded human transitional cell urinary bladder carcinoma tissue by immunohistochemistry. Detection: DAB staining. Antigen retrieval was heat mediated via the pressure cooker method before commencing with IHC staining protocol.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab92551).



Flow Cytometry (Intracellular) - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 Flow Cytometry (Intracellular) staining using rabbit Anti-Cytokeratin 13 antibody

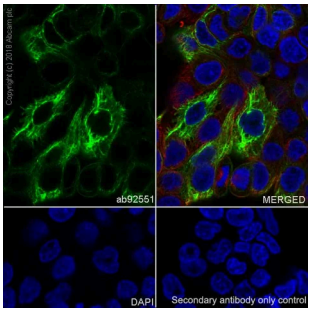
Intracellular Flow Cytometry analysis of A431 (human epidermoid carcinoma) cells labeling Cytokeratin 13 with purified ab92551 at 1/20 dilution (red). The secondary antibody was Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution. A Rabbit monoclonal IgG (Black) was used as the isotype control and cells without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab92551).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 13 antibody

ab92551 showing positive staining in Normal human tonsil squamous cells tissue. Antigen retrieval was heat mediated via the pressure cooker method before commencing with IHC staining protocol.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab92551).

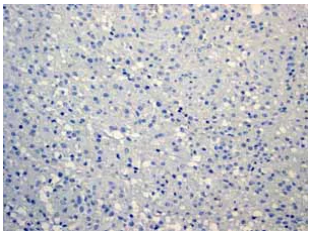


Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Cytokeratin 13 antibody

Immunocytochemistry analysis of A431 (human epidermoid carcinoma epithelial cell) cells labeling Cytokeratin 13 with ab92551 at 1/500 (4 µg/mL). Cells were fixed with 4% Paraformaldehyde and permeabilised with 0.1% tritonX-100. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at 1/200 (2.5 µg/mL) was used to counterstain the cells. ab150077 AlexaFluor®488 Goat anti-Rabbit at 1/1000 (2 µg/mL) was used as the secondary antibody. DAPI (blue) was used as nuclear counterstain.
Confocal image showing cytoplasmic staining in A431 cells.

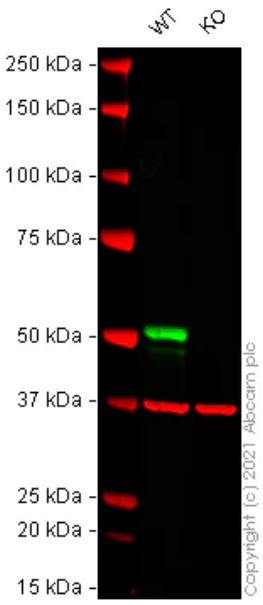
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab92551).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 13 antibody

ab92551 showing negative staining in human Glioma tissue. Antigen retrieval was heat mediated via the pressure cooker method before commencing with IHC staining protocol.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab92551).



Western blot - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 Western blot staining using rabbit Anti-Cytokeratin 13 antibody

False colour image of Western blot: Anti-Cytokeratin 13 antibody [EPR3671] staining at 1/100000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab92551 was shown to bind specifically to Cytokeratin 13. A band was observed at 51 kDa in wild-type A431 cell lysates with no signal observed at this size in Krt13 knockout cell line ab269483 (knockout cell lysate ab269647). To generate this image, wild-type and Krt13 knockout A431 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab92551).

All lanes:
Western blot - Anti-Cytokeratin 13 antibody [EPR3671] (ab92551) at 1/100000 dilution

Lane 1:
Wild-type A431 cell lysate at 20 µg

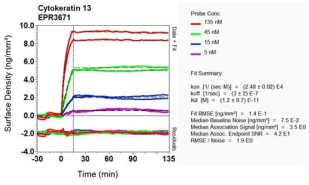
Lane 2:
KRT13 knockout A431 cell lysate at 20 µg

Lane 2:
Western blot - Human KRT13 knockout A-431 cell line (ab269483)

Performed under reducing conditions.

Predicted band size: 50 kDa

Observed band size: 51 kDa



OI-RD Scanning - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

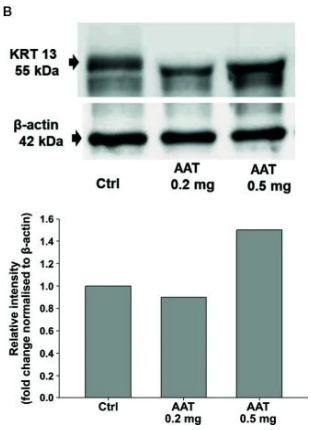


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Western blot - Anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free (ab239918)

Cytokeratin 13 western blot using anti-Cytokeratin 13 antibody [EPR3671] - BSA and Azide free ab239918. Publication image and figure legend from Tumpara, S., Martínez-Delgado, B., et al., 2020, Front Pharmacol, PubMed 32719598.

ab239918 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab239918 please see the product overview.

Effect of AAT on KRT 4 (A) and KRT 13 (B) proteins. EpiCS were cultured for 18 h with topically applied HBSS (control) or with 0.2 and 0.5 mg human AAT. Cell lysates were subjected to Western blot analysis using anti-KRT4 and anti-KRT13 antibody (1:500). β-actin was used as a loading control. Representative blots are shown. Bars show relative intensity of KRT4/13 bands from two independent experiments.

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