abcam

ab250844

Anti-Cytokeratin 1 antibody [EPR17744] - 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	EPR17744
Purification technique	Affinity purification Protein A
Specificity	Recombinant mouse cytokeratin 5 could be detected at very high antibody concentrations in WB.
Concentration	1.002 - 1.016 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human, Rat
Dilution info	-
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	-
Notes	-

Expected

Species	Rat, Mouse
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	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information KRT1

Function	May regulate the activity of kinases such as PKC and SRC via binding to integrin beta-1 (ITB1) and the receptor of activated protein C kinase 1 (RACK1). In complex with C1QBP is a high affinity receptor for kininogen-1/HMWK.

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

ab250844 is the carrier-free version of ab185628.

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 1 also known as CK1 or Keratin 1 (with a molecular mass of approximately 66 kDa) functions as a structural protein integral to the keratinocyte cytoskeleton. Expressed mainly in the epidermis' suprabasal layers it plays an important role in maintaining the structural integrity of the skin. Its expression is

	identifiable through the use of anti-cytokeratin antibodies and anti-cytokeratin 1 antibodies which are specific tools for detecting cytokeratins in tissue sections.
Biological function summary	Cytokeratin 1 contributes to epithelial cell stability and resilience. It forms heterodimers with its partner keratin cytokeratin 10 and participates in creating a complex filament network that protects cells from mechanical stress. This network is essential for the proper functioning of the epithelial barrier which shields underlying tissues from physical damage and pathogen invasion.
Pathways	Cytokeratin 1 is a component of the dermal-epidermal junction integrity pathways and the differentiation pathway of keratinocytes. It interacts closely with cytokeratin 10 and other keratins which help mediate cellular responses to mechanical and chemical stresses. These interactions reinforce the signaling that guides keratinocyte differentiation and ensures the assembly of a well-organized epithelial layer.
Associated diseases and disorders	Mutations or dysregulation in cytokeratin 1 can lead to skin disorders like ichthyosis hystrix and epidermolytic hyperkeratosis. These conditions typically involve disruptions in the structural framework of keratinocytes causing skin scaling and fragility. Abnormal interactions between cytokeratin 1 and proteins such as cytokeratin 10 are often implicated in these disorders highlighting their cooperative role in maintaining skin health.

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

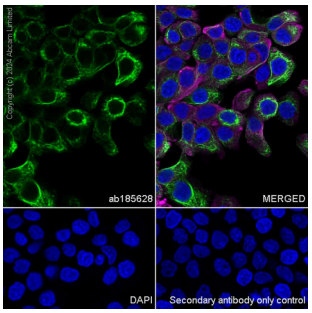
We do not recommend this combination. It is not covered by our product promise.

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



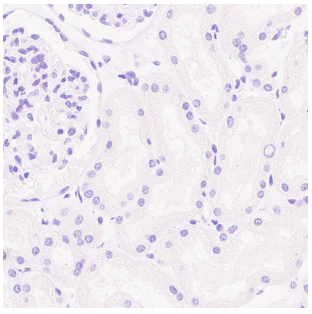
Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

Cytokeratin 1 Immunocytochemistry/ Immunofluorescence staining of A431 (human epidermoid carcinoma epithelial cell) using rabbit Anti-Cytokeratin 1 antibody

This data was developed using ab185628, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized A431 (human epidermoid carcinoma epithelial cell) cells labelling Cytokeratin 1 with ab185628 at 1/50 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (ab150081) secondary antibody at 1/1000 dilution.

Confocal image showing cytoplasmic staining in A431 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Magenta).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

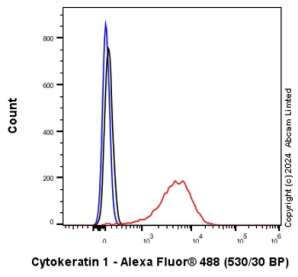
This data was developed using ab185628, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded human kidney labeling Cytokeratin 1 with ab185628 at 1/10000 dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative Control: no staining on human kidney.
The section was incubated with ab185628 for 15 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

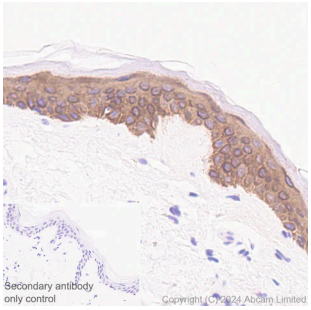
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Flow Cytometry (Intracellular) - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

This data was developed using ab185628, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized A431 (human epidermoid carcinoma epithelial cell) labelling Cytokeratin 1 with ab185628 at 1/500 (Red)

compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

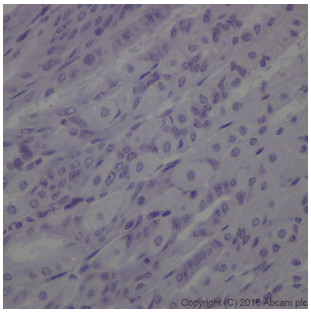
This data was developed using ab185628, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded human skin labeling Cytokeratin 1 with ab185628 at 1/10000 dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Cytoplasmic staining on human skin.
The section was incubated with ab185628 for 15 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

Cytokeratin 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 1 antibody

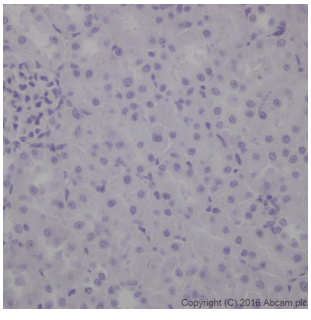
This data was developed using ab185628, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded mouse stomach tissue labeling Cytokeratin 1 with ab185628 at 1/600 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Negative Control: No staining on mouse stomach.

Counter stained with Hematoxylin.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

Cytokeratin 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 1 antibody

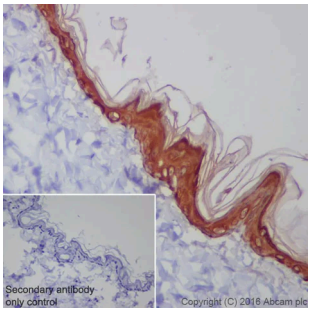
This data was developed using ab185628, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling Cytokeratin 1 with ab185628 at 1/600 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Negative Control: No staining on rat kidney.

Counter stained with Hematoxylin.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

Cytokeratin 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 1 antibody

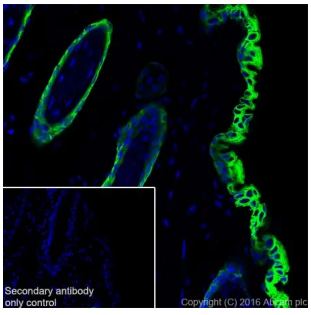
This data was developed using ab185628, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded rat skin tissue labeling Cytokeratin 1 with ab185628 at 1/600 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Cytoplasm staining on rat skin is observed (PMID: 12010363).

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Frozen sections) - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

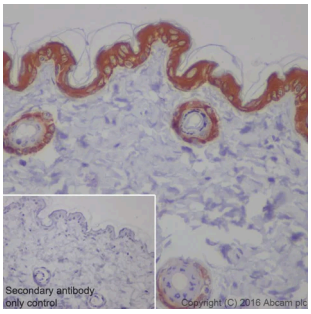
Cytokeratin 1 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Cytokeratin 1 antibody

This data was developed using ab185628, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of 4% paraformaldehyde-fixed, 0.2% Triton X-100 permeabilized frozen mouse skin tissue section labeling Cytokeratin 1 with ab185628 at 1/200 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).

The result showed cytoplasmic staining on mouse skin.

The nuclear counter stain is DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

Cytokeratin 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 1 antibody

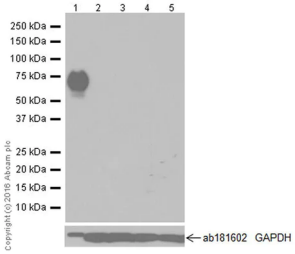
This data was developed using ab185628, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded mouse skin tissue labeling Cytokeratin 1 with ab185628 at 1/600 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Cytoplasm staining on mouse skin is observed (PMID: 12010363).

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-Cytokeratin 1 antibody [EPR17744] - BSA and Azide free (ab250844)

Cytokeratin 1 Western blot staining using rabbit Anti-Cytokeratin 1 antibody

This data was developed using ab185628, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

Cytokeratin 1 is expressed in terminally differentiating epidermis (PMID: 2580302).

All lanes:
Western blot - Anti-Cytokeratin 1 antibody [EPR17744] (ab185628) at 1/20000 dilution

Lane 1:
Human skin lysate at 10 µg

Lane 2:
Human fetal brain lysate at 10 µg

Lane 3:
Human fetal heart lysate at 10 µg

Lane 4:
Human fetal kidney lysate at 10 µg

Lane 5:
Human spleen lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 66 kDa

Observed band size: 66 kDa

Exposure time: 3min

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