abcam

ab181595

# Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker

Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595) is a rabbit monoclonal antibody detecting Cytokeratin 14 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 70 publications

Lab Essentials | Recombinant | RabMAb | KO Validated | 20ul selling size

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | EPR17350 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 2.23 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

### WB

### Tested

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/20000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/20000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/20000 |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 0.2 µg/mL |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 0.2 µg/mL |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Rat |

| | |
|---|---|
| **Dilution info** | 1/190 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse, Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/2000 |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/2000 |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 0.01 µg/mL |
| **Notes** | Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

# Target data

See full target information Keratin, type I cytoskeletal 14

| | |
|---|---|
| **Function** | The nonhelical tail domain is involved in promoting KRT5-KRT14 filaments to self-organize into large bundles and enhances the mechanical properties involved in resilience of keratin intermediate filaments in vitro. |

# Storage

| | |
|---|---|
| **Shipped at conditions** | Conditional Ambient |

| | |
|---|---|
| **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

**What is this antibody validated in?**
Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

**What is the molecular weight of Cytokeratin 14?**
Anti-Cytokeratin 14 [EPR17350] - Cytoskeleton Marker (ab181595) specifically detects a band for Cytokeratin 14 (UniProt: Q61781) at a molecular weight of 53kDa.

**Trusted by the scientific community**
Anti-Cytokeratin 14 [EPR17350] - Cytoskeleton Marker (ab181595) was first used in a scientific publication in 2014 and has been cited over 70 times in peer-reviewed journals.

**Specificity confirmed**
The specificity of Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595) has been confirmed by Immunocytochemistry/ Immunofluorescence testing in Cytokeratin 14 Knockout A431 cells.

**Other related products**
We have a range of other formats of antibody clone [EPR17350] also available for your convenience: ab181595, Alexa Fluor® 647 - ab206100, HRP - ab206280, PE - ab211997, Carrier free - ab220818, Alexa Fluor® 488 - ab277277, Alexa Fluor® 555 - ab280854

**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.

**Trial sizes available!**
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | Cytokeratin 14 also known as CK14 keratin 14 or KRT14 is a type I keratin protein with a molecular mass of approximately 50 kDa. It forms intermediate filaments in epithelial cells primarily in the basal layer of stratified epithelium and is part of the cytoskeleton. Cytokeratin 14 expression appears in tissues such as the epidermis tongue and esophagus where it contributes to the structural integrity and mechanical stability of cells. Laboratories often utilize antibodies like anti-K14 and labels such as Alexa Fluor 555 or Alexa Fluor 647 to identify cytokeratin 14 in research settings. |
| **Biological function summary** | This protein significantly contributes to the maintenance and regeneration of epithelial tissues by forming a network of filaments with keratin 5. KRT14 pairs with keratin 5 to create a keratin intermediate filament complex which plays a structural role in the resilience and elasticity of epithelial tissues. This partnership is essential for the assembly of the cytoskeleton and supports the protective barrier function of the skin and related tissues. |
| **Pathways** | Cytokeratin 14 engages in pivotal cellular processes like keratinization and wound healing. The protein is actively involved in signal transduction pathways such as the epithelial cell differentiation pathway. Within these pathways KRT14 collaborates with KRT5 and other structural proteins to regulate cell proliferation and differentiation reflecting its importance in skin health and function. |
| **Associated diseases and disorders** | Cytokeratin 14 associates with specific genetic conditions including epidermolysis bullosa simplex (EBS) and squamous cell carcinoma (SCC). In EBS mutations in the KRT14 gene lead to skin fragility. In SCC altered expression of KRT14 and related proteins such as keratin 5 can influence tumor progression and invasion. These associations highlight the critical role of KRT14 in both normal and pathological epithelial function. |

## 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.

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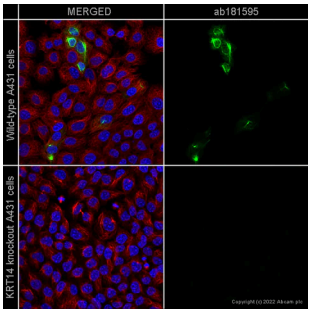
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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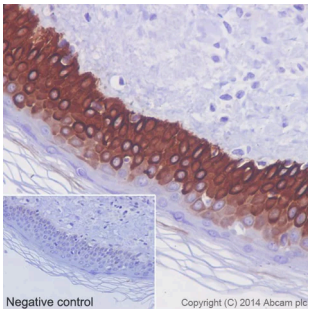
## 11 product images




### Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

ab181595 staining Cytokeratin 14 in wild-type A431 cells (top panel) and KRT14 knockout A431 cells (bottom panel). The cells were fixed with 100% methanol (5 min) then permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab181595 at 0.2µg/ml concentration and ab7291 (Mouse monoclonal to alpha Tubulin) at 1/1000 dilution overnight at 4°C followed by a further incubation at room temperature for 1h with a goat secondary antibody to rabbit IgG (Alexa Fluor® 488) (ab150081) at 2 µg/ml (shown in green) and a goat secondary antibody to mouse IgG (Alexa Fluor® 594) (ab150120) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI. Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).

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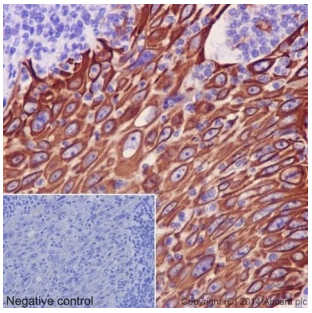

### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

Cytokeratin 14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 antibody

Immunohistochemical analysis of paraffin-embedded human skin tissue labeling Cytokeratin 14 with ab181595 at 1/2000 dilution, followed by prediluted HRP polymer for Rabbit/Mouse IgG. Basal cells of epidermis show strong staining while no staining on the stratum corneum. Counterstained with hematoxylin.
**Negative control:** PBS instead of primary antibody, secondary antibody is prediluted HRP polymer for Rabbit/Mouse IgG.

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

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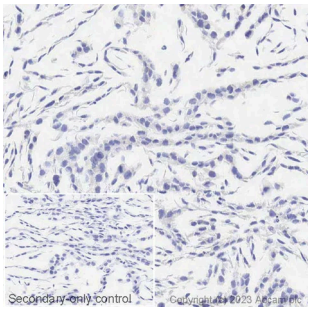

## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

Cytokeratin 14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 antibody

Immunohistochemical analysis of paraffin-embedded human squamous cell carcinoma of cervix tissue labeling Cytokeratin 14 with ab181595 at 1/2000 dilution, followed by prediluted HRP polymer for Rabbit/Mouse IgG. Squamous carcinoma cells show strong staining. Counterstained with hematoxylin.
**Negative control:** PBS instead of primary antibody, secondary antibody is prediluted HRP polymer for Rabbit/Mouse IgG.

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

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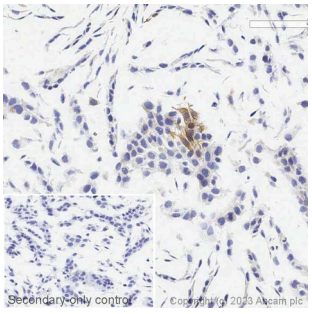



Lab

## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

**Negative control image:** IHC image of Cytokeratin 14 staining in a section of formalin-fixed paraffin-embedded A431 KO cell pellet block performed on a Leica Biosystems BOND® RX instrument. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab181595, 0.01ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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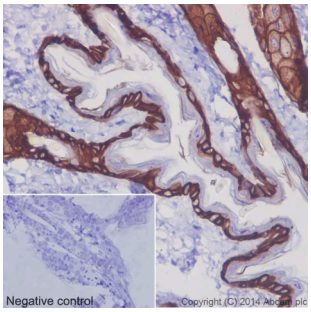



Lab

## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

IHC image of Cytokeratin 14 staining in a section of formalin-fixed paraffin-embedded A431 WT cell pellet block performed on a Leica Biosystems BOND® RX instrument. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab181595, 0.01ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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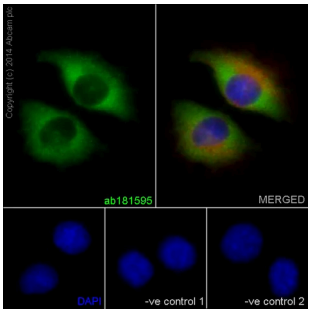



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

Cytokeratin 14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 antibody

Immunohistochemical analysis of paraffin-embedded mouse skin tissue labeling Cytokeratin 14 with ab181595 at 1/2000 dilution, followed by prediluted HRP polymer for Rabbit/Mouse IgG. Basal cells of epidermis show strong staining while no staining on the stratum corneum. Counterstained with hematoxylin.
**Negative control:** PBS instead of primary antibody, secondary antibody is prediluted HRP polymer for Rabbit/Mouse IgG.

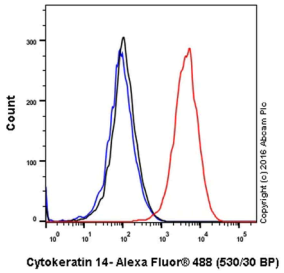
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.




## Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

Cytokeratin 14 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Cytokeratin 14 antibody

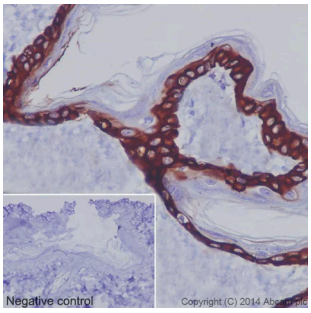
Immunofluorescent analysis of 4% paraformaldehyde fixed, 0.1% Triton X-100 permeabilized PC-12 (Rat adrenal gland pheochromocytoma cells) labeling Cytokeratin 14 with ab181595 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/400 dilution (green). Cytoplasm staining on PC-12 cell line is observed. The nuclear counterstain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls:-
**-ve control 1:** ab181595 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
**-ve control 2:** ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/400 dilution.




## Flow Cytometry (Intracellular) - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

Cytokeratin 14 Flow Cytometry (Intracellular) staining using rabbit Anti-Cytokeratin 14 antibody

Intracellular Flow Cytometry analysis of PC-12 (rat adrenal gland pheochromocytoma) cells labeling Cytokeratin 14 with purified ab181595 at 1/190 dilution (10µg/mL) (**red**).
Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody. Rabbit monoclonal IgG (ab172730) (**Black**) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (**Blue**) was used as the unlabeled control.

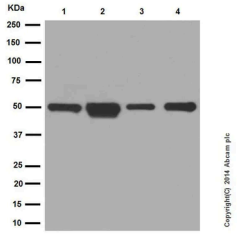



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

Cytokeratin 14 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 antibody

Immunohistochemical analysis of paraffin-embedded rat skin tissue labeling Cytokeratin 14 with ab181595 at 1/2000 dilution, followed by prediluted HRP polymer for Rabbit/Mouse IgG. Basal cells of epidermis show strong staining while no staining on the stratum corneum. Counterstained with hematoxylin.
**Negative control:** PBS instead of primary antibody, secondary antibody is prediluted HRP polymer for Rabbit/Mouse IgG.

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




## Western blot - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

Cytokeratin 14 Western blot staining using rabbit Anti-Cytokeratin 14 antibody

**Blocking/Dilution buffer:** 5% NFDM/TBST.
HaCaT cells express a higher level of Cytokeratin 14 than other cell lines such as A431.

All lanes:
Western blot - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595) at 1/20000 dilution

Lane 1:
A431 (Human epidermoid carcinoma) whole cell lysate at 20 µg

Lane 2:
HaCaT (Human keratinocyte cells) whole cell lysate at 20 µg

Lane 3:
Mouse skin lysate at 20 µg

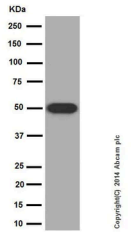
Lane 4:
Rat skin lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

Predicted band size: 52 kDa

Observed band size: 53 kDa




# Western blot - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595)

Cytokeratin 14 Western blot staining of Human skin lysate using rabbit Anti-Cytokeratin 14 antibody

**Blocking/Dilution buffer:** 5% NFDM/TBST.
All lanes:
Western blot - Anti-Cytokeratin 14 antibody [EPR17350] - Cytoskeleton Marker (ab181595) at 1/20000 dilution

All lanes:
Human skin lysate at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 52 kDa

Observed band size: 53 kDa

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