abcam

ab192055

Alexa Fluor® 488 Anti-Cytokeratin 14 antibody [EP1612Y]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP1612Y
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	Signal can be observed in cells fixed with MeOH or PFA.

Not recommended

Species	Mouse
Dilution info	-
Notes	Signal can be observed in cells fixed with MeOH or PFA.

Species	Rat
Dilution info	-
Notes	Signal can be observed in cells fixed with MeOH or PFA.

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500

Notes	ab199091 - Rabbit monoclonal IgG (Alexa FluorÂ® 488), is suitable for use as an isotype control with this antibody.

Not recommended

Species	Mouse
Dilution info	-
Notes	ab199091 - Rabbit monoclonal IgG (Alexa FluorÂ® 488), is suitable for use as an isotype control with this antibody.

Species	Rat
Dilution info	-
Notes	ab199091 - Rabbit monoclonal IgG (Alexa FluorÂ® 488), is suitable for use as an isotype control with this antibody.

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	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, Store in the dark

Notes

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.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

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.

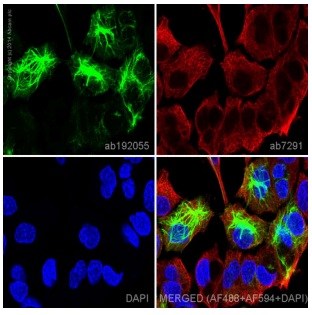
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
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6 product images

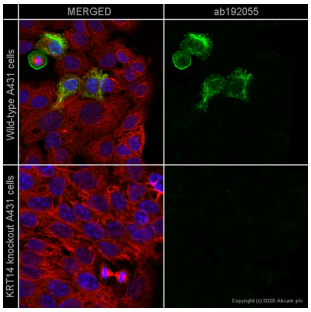


Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-Cytokeratin 14 antibody [EP1612Y] (ab192055)

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

ab192055 staining Cytokeratin 14 in A431 cells. The cells were fixed with 100% methanol (5min), permeabilized in 0.1% Triton X-100 for 5 minutes and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab192055 at a working dilution of 1 in 100 (shown in green) and ab7291 (Mouse monoclonal [DM1A] to alpha Tubulin) at 1µg/ml overnight at +4°C, followed by a further incubation at room temperature for 1h with an Alexa Fluor® 594 Goat anti-Mouse secondary (ab150120) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI.
This product also gave a positive signal in 4% formaldehyde (10 min) fixed A431 cells under the same testing conditions.

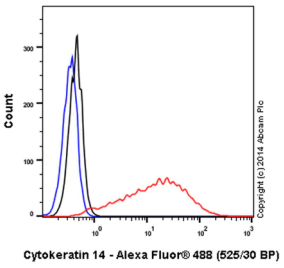
Image was taken with a Confocal microscope (Leica-microsystems, TCS SP8).



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-Cytokeratin 14 antibody [EP1612Y] (ab192055)

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

ab192055 staining KRT14 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 ab192055 at 1/100 dilution and ab190573 (Rabbit monoclonal to alpha Tubulin - Alexa Fluor® 647) at 1/250 dilution overnight at 4°C. Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).

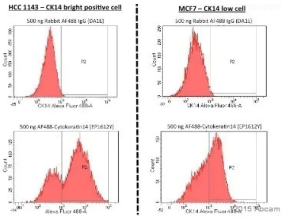


Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-Cytokeratin 14 antibody [EP1612Y] (ab192055)

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

Overlay histogram showing A431 cells stained with ab192055 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 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 (ab192055, 1/500 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 488 used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

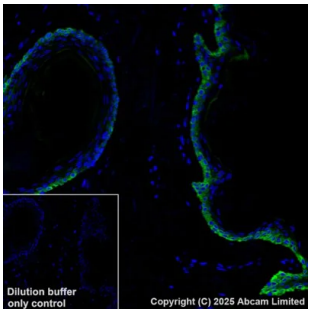
This antibody gave a positive signal in A431 fixed with 4% formaldehyde (10 min)/permeabilized with 0.1% PBS-Triton X-100 for 20 min used under the same conditions.



This image is courtesy of an anonymous customer review

Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-Cytokeratin 14 antibody [EP1612Y] (ab192055)

ab192055 staining Cytokeratin 14 in CK14 bright positive and low cell lines by Flow Cytometry. Cells were fixed with paraformaldehyde and permeabilized with PBS + 5% FBS + 2% Triton X-100. The sample was incubated with the primary antibody (1/50 in PBS + 5% FBS + 0.2% Triton X-100) for 45 minutes at 4°C.
Gating Strategy: Doublet were excluded based on SSC - FSC profile.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 488 Anti-Cytokeratin 14 antibody [EP1612Y] (ab192055)

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

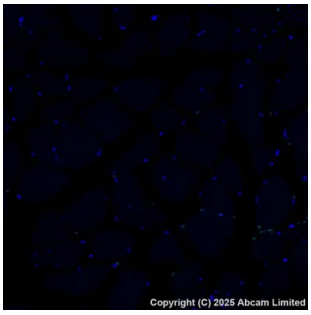
Immunohistochemical analysis of paraffin-embedded Human skin tissue labelling Anti-Cytokeratin 14 with ab192055 at 1/50 (10.0 ug/ml) dilution.

Positive staining on Human skin.

The primary antibody was incubated for 60 mins at room temperature (shown in green). Nuclear DNA was labelled with DAPI (shown in blue). The section was then mounted using Fluoromount®.

The immunostaining was performed on a Leica Biosystems BOND RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 40 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 488 Anti-Cytokeratin 14 antibody [EP1612Y] (ab192055)

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

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labelling Anti-Cytokeratin 14 with ab192055 at 1/50 (10.0 ug/ml) dilution.

Negative control: no staining on Human skeletal muscle.

The primary antibody was incubated for 60 mins at room temperature (shown in green). Nuclear DNA was labelled with DAPI (shown in blue). The section was then mounted using Fluoromount®.

The immunostaining was performed on a Leica Biosystems BOND RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 40 mins.

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