abcam

ab214391

Alexa Fluor® 555 Anti-Cytokeratin 14 antibody [EP1612Y]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 555
Excitation/Emission	Ex: 555nm, Em: 565nm
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

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	This product gave a positive signal in A431 cells fixed with 4% formaldehyde (10 min) and 100% methanol (5 min)

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

Flow Cyt (Intra)

Expected

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

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.

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.

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

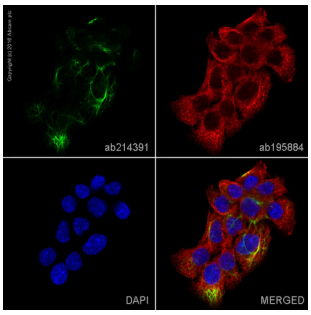
We do not recommend this combination. It is not covered by our product promise.

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:
Terms & Conditions.

2 product images

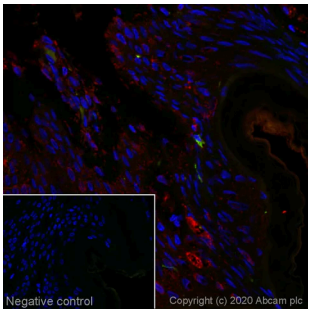


Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 555 Anti-Cytokeratin 14 antibody [EP1612Y] (ab214391)

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

ab214391 staining Cytokeratin 14 in A431 cells. The cells were fixed with 100% methanol (5 min), 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 overnight at +4°C with ab214391 at 1/100 dilution (**pseudocolored in green**) and ab195884, Rat monoclonal to Tubulin (Alexa Fluor® 647), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in A431 cells fixed with 4% formaldehyde (10 min).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 555 Anti-Cytokeratin 14 antibody [EP1612Y] (ab214391)

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

Immunofluorescence staining of Cytokeratin 14 staining in a section of formalin-fixed paraffin-embedded human normal skin*.
Performed on a Leica BOND. The section was pre-treated using heat mediated antigen retrieval with EDTA (pH 9.0) using retrieval settings of 110°C for 20 minutes. The section was then incubated at room temperature for 1 hour with ab214391 at 1/100 dilution (shown in green) and counterstained using ab195884, Rat monoclonal to Tubulin (Alexa Fluor® 647), at 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue). The section was then mounted using Dako Fluorescence Mounting Medium®.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

For other IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antigen retrieval conditions, antibody concentrations and incubation times.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre.

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