abcam

ab232522

Anti-Cytokeratin 14 + Cytokeratin 16 antibody [EP1615Y] - 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	EP1615Y
Purification technique	Affinity purification Protein A
Specificity	Several customers have found that this antibody gives good results in mouse and rat however in our hands, we cannot obtain positive results. This antibody is therefore no longer covered by our Abpromise guarantee for use in mouse or rat.
Concentration	1.002 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

WB

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information KRT16

Function	Epidermis-specific type I keratin that plays a key role in skin. Acts as a regulator of innate immunity in response to skin barrier breach: required for some inflammatory checkpoint for the skin barrier maintenance.

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

ab232522 is the carrier-free version of ab76416.

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 16 often called K16 or Krt16 weighs around 50 kDa and belongs to the keratin family. Researchers commonly find K16 in epithelial tissues particularly in areas subjected to constant mechanical stress such as palms and soles. In addition to its localized expression K16 appears during wound healing processes where cells experience high turnover or regeneration activities. Its expression often pairs with Krt6 another keratin type contributing to its mechanical properties under stress conditions often called "pressure point".
Biological function summary	K16 plays critical roles in maintaining the integrity of epithelial cells and tissues. It is a structural protein that helps stabilize keratin cytoarchitecture. K16 forms a complex with its partner keratins like K17 providing resilience and elasticity to the skin ensuring durability in regions experiencing repetitive physical stress. Additionally K16 helps regulate proliferation and differentiation of keratinocytes contributing to healthy skin formation and repair.
Pathways	K16 takes part in signaling pathways associated with epidermal development and repair. It acts within the keratinization process interacting closely with signaling components that influence cell cycle regulation and DNA repair. Proteins such as p63 and Krt17 assist this regulatory mechanism influencing cellular responses to stress or damage. These interactions help modulate barrier function and skin homeostasis ensuring responsive adaptation to environmental changes.
Associated diseases and disorders	K16 links to conditions like psoriasis and pachyonychia congenita. In psoriasis K16 expression becomes markedly upregulated contributing to the characteristic skin hyperproliferation. Similarly in pachyonychia congenita mutations in the K16 gene lead to nail and skin anomalies causing painful epidermal lesions. Both disorders highlight K16's involvement with Krt6 and Krt17 as these proteins collectively demonstrate disrupted keratin networks resulting in compromised skin integrity.

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

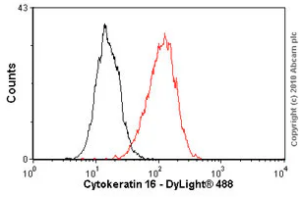
We do not recommend this combination. It is not covered by our product promise.

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.

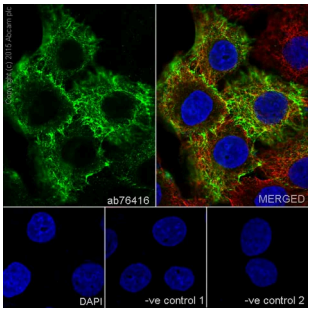
6 product images



Flow Cytometry (Intracellular) - Anti-Cytokeratin 14 + Cytokeratin 16 antibody [EP1615Y] - BSA and Azide free (ab232522)

Cytokeratin 14 + Cytokeratin 16 Flow Cytometry (Intracellular) staining using rabbit Anti-Cytokeratin 14 + Cytokeratin 16 antibody

Overlay histogram showing HepG2 cells stained with unpurified ab76416 (red line). The cells were fixed with methanol (5 min) and then permeabilized with 0.1% PBS-Triton 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 (ab76416, 1/50 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit monoclonal IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HepG2 cells fixed with 4% paraformaldehyde/permeabilized in 0.1% PBS-Triton used under the same conditions.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76416).

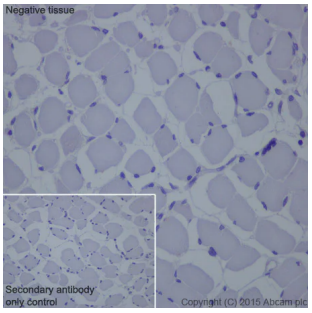


Immunocytochemistry/ Immunofluorescence - Anti-Cytokeratin 14 + Cytokeratin 16 antibody [EP1615Y] - BSA and Azide free (ab232522)

Cytokeratin 14 + Cytokeratin 16 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Cytokeratin 14 + Cytokeratin 16 antibody

ab76416 staining Cytokeratin 16/K16 in A431 (human epidermoid carcinoma) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% Triton X-100. Samples were incubated with primary antibody at a dilution of 1/100. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody. ab7291 and ab150120 were used as counterstains for primary antibody ab75748 and secondary antibody ab150077 respectively and DAPI was used as a nuclear counterstain.
Negative control 1: Rabbit primary antibody and anti-mouse secondary antibody (ab150120)
Negative control 2: Mouse primary antibody (ab7291) and anti-rabbit secondary antibody (ab150077)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76416).

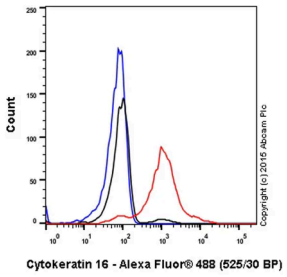


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 + Cytokeratin 16 antibody [EP1615Y] - BSA and Azide free (ab232522)

Cytokeratin 14 + Cytokeratin 16 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 + Cytokeratin 16 antibody

ab76416 staining Cytokeratin 16/K16 in human skeletal muscle sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/500. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76416).



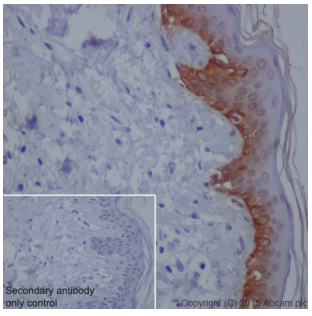
Flow Cytometry (Intracellular) - Anti-Cytokeratin 14 + Cytokeratin 16 antibody [EP1615Y] - BSA and Azide free (ab232522)

Cytokeratin 14 + Cytokeratin 16 Flow Cytometry (Intracellular) staining using rabbit Anti-Cytokeratin 14 + Cytokeratin 16 antibody

ab76416 staining Cytokeratin 16 / K16 in HACAT (human keratinocyte) cell line by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde and the sample was incubated with the primary antibody at a dilution of 1/150. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/500 was used as the secondary antibody.
Isoytype control: Rabbit monoclonal IgG (Black)

Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76416).

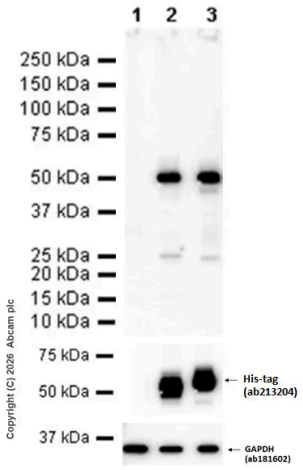


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytokeratin 14 + Cytokeratin 16 antibody [EP1615Y] - BSA and Azide free (ab232522)

Cytokeratin 14 + Cytokeratin 16 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Cytokeratin 14 + Cytokeratin 16 antibody

ab76416 staining Cytokeratin 16/K16 in human skin tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/500. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76416).



Western blot - Anti-Cytokeratin 14 + Cytokeratin 16 antibody [EP1615Y] - BSA and Azide free (ab232522)

Cytokeratin 14 + Cytokeratin 16 Western blot staining using rabbit Anti-Cytokeratin 14 + Cytokeratin 16 antibody

Blocking and dilution buffer and concentration: 5% NFDM /TBST.
ab181602 was used as a GAPDH loading control. ab213204 was used at 1/5000 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76416).

All lanes:
Western blot - Anti-Cytokeratin 14 + Cytokeratin 16 antibody [EP1615Y] (ab76416) at 1/1000 dilution

Lane 1:
293T cells transfected with an empty vector containing a His tag whole cell lysate at 20 µg

Lane 2:
293T cells transfected with a full length human CK-16 expression vector containing a His-tag whole cell lysate at 20 µg

Lane 3:
293T cells transfected with a full length human CK-14 expression vector containing a His-tag whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 50 kDa

Exposure time: 40s

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