abcam

ab16113

Anti-hair cortex Cytokeratin/K40 antibody [AE13]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.2 Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human KRT40. Database link Q6A162
Clone number	AE13
Purification technique	Affinity purification Protein G
Specificity	This antibody is specific for the family of hair cortex keratins.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/20 - 1/50
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Expected

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

IHC-Fr

Expected

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

Target data

See full target information KRT40

Function	May play a role in late hair differentiation.

Storage

Shipped at conditions	Blue Ice
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

This antibody is an excellent marker for hair and nail differentiation.

Supplementary info

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

Activity summary	Hair cortex Cytokeratin also known as K40 is a type of intermediate filament protein with a molecular mass of approximately 40 kDa. It is an important structural component in the hair shaft particularly within the cortex where it contributes to the mechanical properties of hair fiber. K40 is predominantly expressed in keratinocytes found in the hair follicle's inner layers including the scalp. This protein provides toughness and elasticity to the hair and it plays a significant role in maintaining hair integrity.
Biological function summary	Cytokeratin K40 helps form a stable cytoskeletal network that supports the structural framework of the hair shaft. Within the keratin family K40 is part of a larger complex of keratin proteins that interact to form strong fibrous structures. It partners with other keratins like AE13 to reinforce the mechanical durability of hair. This complex network supports the rigidity and resilience necessary to resist environmental damage and mechanical stress.
Pathways	The function of hair cortex Cytokeratin K40 interweaves with processes involved in epithelial cell differentiation and hair formation. K40 aligns with the keratinization pathway where it collaborates with related keratins to implement the transformation of keratinocytes into the keratin-rich hair cortex. This pathway

connects K40 with proteins like AE1 and AE13 which together facilitate the assembly of a robust cytoskeletal matrix essential for forming healthy hair.

Associated diseases and disorders

Alterations in Cytokeratin K40 expression can relate to hair shaft disorders and conditions like alopecia. These diseases often arise when the normal architecture and strength of hair fibers are compromised. Within this context changes in K40 may also impact the activity of other keratin proteins such as b and AE13 exacerbating the severity of hair brittleness and growth issues. Understanding the role of K40 may help develop therapeutic strategies to manage or treat associated hair disorders.

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

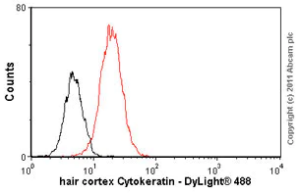
We do not recommend this combination. It is not covered by our product promise.

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

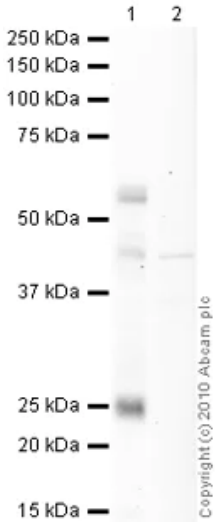


Flow Cytometry - Anti-hair cortex Cytokeratin/K40 antibody [AE13] (ab16113)

Hair cortex Cytokeratin/K40 Flow Cytometry staining using mouse Anti-hair cortex Cytokeratin/K40 antibody

Overlay histogram showing A431 cells stained with ab16113 (red line). The cells were fixed with 4% paraformaldehyde (10 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 (ab16113, 1/20 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in A431 cells fixed with 100% methanol (5 min)/permeabilized in 0.1% PBS-Triton used under the same conditions.



Western blot - Anti-hair cortex Cytokeratin/K40 antibody [AE13] (ab16113)

Hair cortex Cytokeratin/K40 Western blot staining using mouse Anti-hair cortex Cytokeratin/K40 antibody

All lanes:
Western blot - Anti-hair cortex Cytokeratin/K40 antibody [AE13] (ab16113) at 1 µg/mL

Lane 1:
Western blot - Mouse skin tissue lysate (14 days) (ab7271) at 10 µg

Lane 2:
Caco 2 (Human colonic carcinoma cell line) Whole Cell Lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 48 kDa

Observed band size: 25 kDa, 44 kDa, 55 kDa

Exposure time: 20min

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