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Anti-Cytokeratin 18 KRT18 Antibody Picoband™(monoclonal, 7I6)

Catalog # ABO14909

Product Information

Application	WB, IHC, IHC-F, IF, ICC, FC
Primary Accession	P05783
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Cytokeratin 18 KRT18 Antibody Picoband™ (monoclonal, 7I6) . Tested in Flow Cytometry, IF, IHC, IHC-F, ICC, WB applications. This antibody reacts with Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	3875
Other Names	Keratin, type I cytoskeletal 18, Cell proliferation-inducing gene 46 protein, Cytokeratin-18, CK-18, Keratin-18, K18, KRT18, CYK18
Calculated MW	48058
Application Details	Western blot, 0.1-0.5 □g/ml, Human Immunohistochemistry (Paraffin-embedded Section), 0.5-1 □g/ml, Human Immunohistochemistry (Frozen Section), 0.5-1 □g/ml, Human Immunocytochemistry/Immunofluorescence, 2 □g/ml, Human Immunofluorescence, 2 □g/ml, Human Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Subcellular Localization	Nucleolus. Perinuclear region.
Tissue Specificity	Expressed in colon, placenta, liver and very weakly in exocervix. Increased expression observed in lymph nodes of breast carcinoma.
Source	Eukaryota
Protein Name	Keratin, type I cytoskeletal 18
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Clone Names	Clone: 7I6
Immunogen	E.coli-derived human Cytokeratin 18 recombinant protein (Position: E204-H430). Human Cytokeratin 18 shares 87.7% and 85.9% amino acid (aa) sequence identity with mouse and rat Cytokeratin 18, respectively.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross-reactivity with other proteins.
Storage	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.

Protein Information

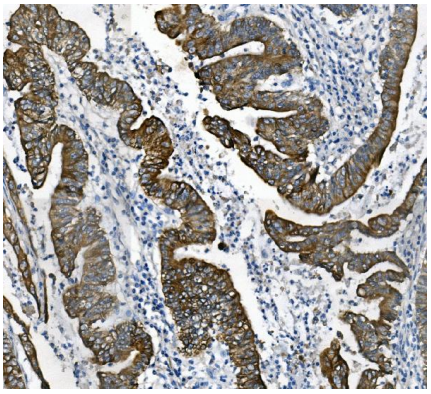
Name	KRT18 (HGNC:6430)
Synonyms	CYK18
Function	Structural component of intermediate filaments in simple epithelial cells. Forms intermediate filaments by heterodimerizing with the type II keratin KRT8, providing mechanical stability and resilience to epithelial cells (PubMed:15529338, PubMed:26823019). Involved in ARHGEF40-mediated actin stress fiber formation and tensional force- induced stress fiber formation and reinforcement (PubMed:26823019). Integrates into the intermediate filament network of skeletal muscle fibers alongside desmin and KRT19, contributing to force transmission (By similarity). Organization and orientation of KRT8/KRT18 filaments are responsible for the properly elongated morphology of epithelial tubules (By similarity). Also acts downstream of ROCK kinase activation as part of a positive feedback mechanism in response to cellular mechanical stress loading (PubMed:26823019). Involved in the uptake of thrombin-antithrombin complexes by hepatic cells (By similarity). When phosphorylated, plays a role in filament reorganization (PubMed:7523419, PubMed:8522591, PubMed:9298992, PubMed:9524113). Involved in the delivery of mutated CFTR to the plasma membrane (PubMed:15529338, PubMed:16424149). Involved in interleukin-6 (IL-6)- mediated barrier protection (PubMed:17213200).
Cellular Location	Nucleus matrix {ECO:0000250|UniProtKB:Q5BJY9}. Cytoplasm, perinuclear region. Nucleus, nucleolus. Cytoplasm {ECO:0000250|UniProtKB:Q5BJY9}
Tissue Location	Expressed in colon, placenta, liver and very weakly in exocervix. Increased expression observed in lymph nodes of breast carcinoma.

Background

Keratin 18, mapped to 12q13.13, is a type I cytokeratin. It is, together with its filament partner keratin 8, perhaps the most commonly found products of the intermediate filament gene family. They are expressed in single layer epithelial tissues of the body. Mutations in this gene have been linked to cryptogenic cirrhosis. Two transcript variants encoding the same protein have been found for this gene.

Images

Figure 2. IHC analysis of Cytokeratin 18 using anti-Cytokeratin 18 antibody (M01357-4).



Cytokeratin 18 was detected in paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Cytokeratin 18 Antibody (M01357-4) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

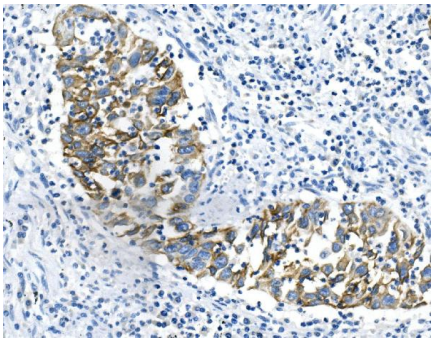


Figure 3. IHC analysis of Cytokeratin 18 using anti-Cytokeratin 18 antibody (M01357-4).
Cytokeratin 18 was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Cytokeratin 18 Antibody (M01357-4) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

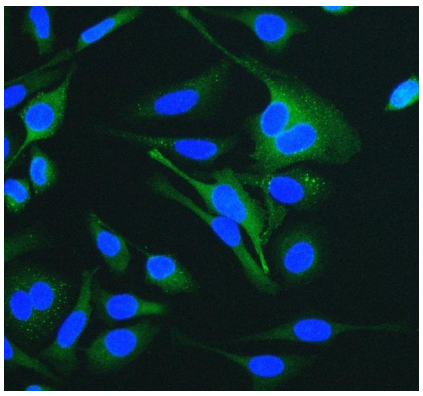


Figure 4. IF analysis of Cytokeratin 18 using anti-Cytokeratin 18 antibody (M01357-4).
Cytokeratin 18 was detected in immunocytochemical section of Hela cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2 µg/mL mouse anti-Cytokeratin 18 Antibody (M01357-4) overnight at 4°C. DyLight®488 Conjugated Goat Anti-mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

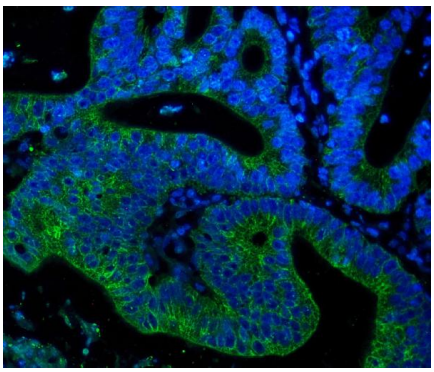
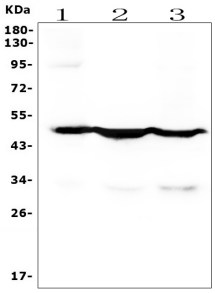


Figure 5. IF analysis of Cytokeratin 18 using anti-Cytokeratin 18 antibody (M01357-4).
Cytokeratin 18 was detected in paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/mL mouse anti-Cytokeratin 18 Antibody (M01357-4) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

Figure 1. Western blot analysis of Cytokeratin 18 using anti-Cytokeratin 18 antibody (M01357-4).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.



The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human placenta tissue lysates,
Lane 2: human Caco-2 whole cell lysates,
Lane 3: human A549 whole cell lysates.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hours at RT. The membrane was incubated with mouse anti-Cytokeratin 18 antigen affinity purified monoclonal antibody (Catalog # M01357-4) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Cytokeratin 18 at approximately 48KD. The expected band size for Cytokeratin 18 is at 48KD.

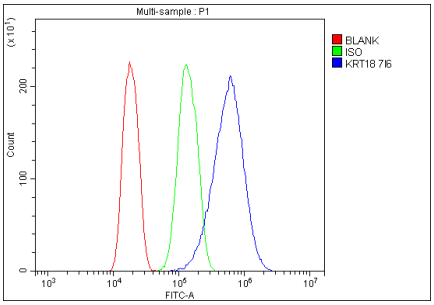


Figure 6. Flow Cytometry analysis of A431 cells using anti-Cytokeratin 18 antibody (M01357-4).
Overlay histogram showing A431 cells stained with M01357-4 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Cytokeratin 18 Antibody (M01357-4, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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