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Anti-Cytokeratin 19 KRT19 Antibody Picoband™ (monoclonal, 3D4)

Catalog # ABO14338

Product Information

Application	WB, IHC, IF
Primary Accession	P08727
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Cytokeratin 19 KRT19 Antibody Picoband™ (monoclonal, 3D4) . Tested in IF, IHC, WB applications. This antibody reacts with Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	3880
Other Names	Keratin, type I cytoskeletal 19, Cytokeratin-19, CK-19, Keratin-19, K19, KRT19
Calculated MW	44106
Application Details	Western blot, 0.1-0.5 □g/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1 □g/ml Immunofluorescence, 2 □g/ml
Tissue Specificity	Expressed in a defined zone of basal keratinocytes in the deep outer root sheath of hair follicles. Also observed in sweat gland and mammary gland ductal and secretory cells, bile ducts, gastrointestinal tract, bladder urothelium, oral epithelia, esophagus, ectocervical epithelium (at protein level). Expressed in epidermal basal cells, in nipple epidermis and a defined region of the hair follicle. Also seen in a subset of vascular wall cells in both the veins and artery of human umbilical cord, and in umbilical cord vascular smooth muscle. Observed in muscle fibers accumulating in the costameres of myoplasm at the sarcolemma in structures that contain dystrophin and spectrin.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Clone Names	Clone: 3D4
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human

	Cytokeratin 19, different from the related mouse and rat sequences by nine amino acids.
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	KRT19 (HGNC:6436)
Function	Structural component of intermediate filaments in epithelial cells. Forms intermediate filaments by heterodimerizing with the type II keratin KRT8, providing mechanical integrity to epithelial cells (PubMed:16000376). Integrates into the intermediate filament network of skeletal muscle fibers alongside desmin and KRT18, contributing to force transmission (By similarity). Specifically interacts with the actin-binding domain of dystrophin, helping to link the contractile apparatus to dystrophin at the costameres of striated muscle (PubMed:16000376).
Tissue Location	Expressed in a defined zone of basal keratinocytes in the deep outer root sheath of hair follicles. Also observed in sweat gland and mammary gland ductal and secretory cells, bile ducts, gastrointestinal tract, bladder urothelium, oral epithelia, esophagus, ectocervical epithelium (at protein level). Expressed in epidermal basal cells, in nipple epidermis and a defined region of the hair follicle. Also seen in a subset of vascular wall cells in both the veins and artery of human umbilical cord, and in umbilical cord vascular smooth muscle. Observed in muscle fibers accumulating in the costameres of myoplasm at the sarcolemma in structures that contain dystrophin and spectrin.

Background

Keratin, type I cytoskeletal 19 is a protein that in humans is encoded by the KRT19 gene. The protein encoded by this gene is a member of the keratin family. It is specifically expressed in the periderm, the transiently superficial layer that envelops the developing epidermis. The type I cytokeratins are clustered in a region of chromosome 17q12-q21. Due to its high sensitivity, KRT19 is the most used marker for the RT-PCR-mediated detection of tumor cells disseminated in lymph nodes, peripheral blood, and bone marrow of breast cancer patients. Keratin 19 is often used together with keratin 8 and keratin 18 to differentiate cells of epithelial origin from hematopoietic cells in tests that enumerate circulating tumor cells in blood.

Images

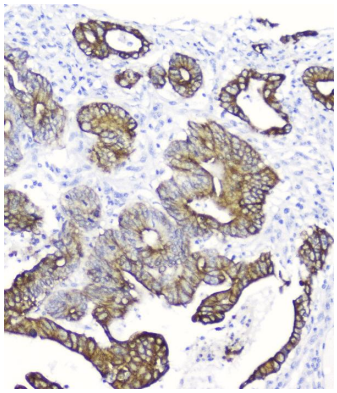
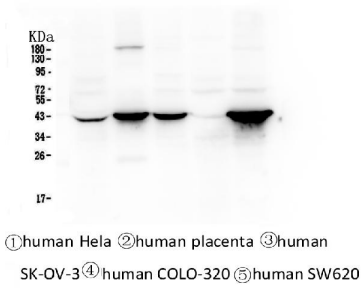


Figure 2. IHC analysis of Cytokeratin 19 using anti-Cytokeratin 19 antibody (M02101-2). Cytokeratin 19 was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-Cytokeratin 19 Antibody (M02101-2) 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.



①human Hela ②human placenta ③human SK-OV-3④human COLO-320 ⑤human SW620

Figure 1. Western blot analysis of Cytokeratin 19 using anti-Cytokeratin 19 antibody (M02101-2).
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 Hela whole cell lysates,
Lane 2: human placenta tissue lysates,
Lane 3: human SK-OV-3 whole cell lysates,
Lane 4: human COLO-320 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 hour at RT. The membrane was incubated with mouse anti-Cytokeratin 19 antigen affinity purified monoclonal antibody (Catalog # M02101-2) 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.

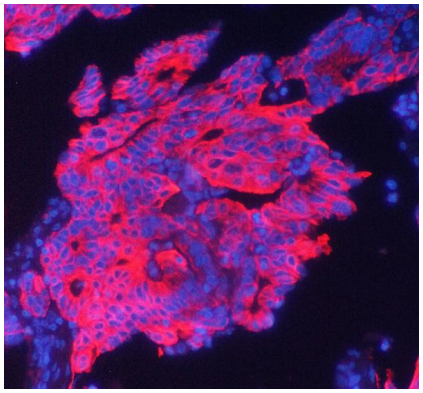


Figure 3. IF analysis of Cytokeratin 19 using anti-Cytokeratin 19 antibody (M02101-2).
Cytokeratin 19 was detected in paraffin-embedded section of human intestinal cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/mL mouse anti-Cytokeratin 19 Antibody (M02101-2) overnight at 4°C. DyLight®550 Conjugated Goat Anti-Mouse IgG was used as secondary antibody at 1:200 dilution and incubated for 30 minutes at 37°C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

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