# RD SYSTEMS a biotechne brand

# Human Cytokeratin 18 Antibody

Monoclonal Mouse IgG<sub>1</sub> Clone # 810811 Catalog Number: MAB7619

DESCRIPTION **Species Reactivity** Human Specificity Detects human Cytokertin 18 in direct ELISAs and Western blots. Monoclonal Mouse IgG<sub>1</sub> Clone # 810811 Source Purification Protein A or G purified from hybridoma culture supernatant E. coli-derived recombinant human Cytokeratin 18 Immunogen Ala239-Asp397 Accession # P05783 Formulation Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. \*Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

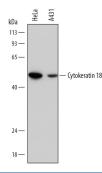
#### APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

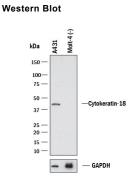
	Recommended Concentration	Sample
Western Blot	0.2-1 μg/mL	See Below
Immunocytochemistry	8-25 μg/mL	See Below
Immunohistochemistry	8-25 μg/mL	See Below
Simple Western	2 µg/mL	See Below

### DATA

## Western Blot

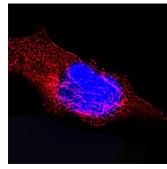


Detection of Human Cytokeratin 18 by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line and A431 human epithelial carcinoma cell line. PVDF membrane was probed with 0.2 µg/mL of Mouse Anti-Human Cytokeratin 18 Monoclonal Antibody (Catalog # MAB7619) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # Catalog # HAF018). A specific band was detected for Cytokeratin 18 at approximately 48 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.



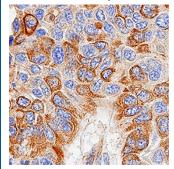
Detection of Human Cytokeratin 18 by Western Blot. Western blot shows lysates of A431 human epithelial carcinoma cell line (Cytokeratin 18 positive) and MOLT-4 human acute lymphoblastic leukemia cell line (Cytokeratin 18 negative). PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Cytokeratin 18 Monoclonal Antibody (Catalog # MAB7619) followed by HRPconjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Cytokeratin 18 at approximately 45 kDa (as indicated). GAPDH (Catalog # MAB5718) is shown as a loading control This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

#### Immunocytochemistry



Cytokeratin 18 in HeLa Human Cell Line. Cytokeratin 18 was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Mouse Anti-Human Cytokeratin 18 Monoclonal Antibody (Catalog # MAB7619) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights<sup>™</sup> 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to intermediate filaments in cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

#### Immunohistochemistry



Cytokeratin 18 in Human Squamous Cell Carcinoma. Cytokeratin 18 was detected in immersion fixed paraffin-embedded sections of human squamous cell carcinoma using Mouse Anti-Human Cytokeratin 18 Monoclonal Antibody (Catalog # MAB7619) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to cancer cells. View our protocol for Chromogenic IHC Staining of Paraffinembedded Tissue Sections.

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#### Simple Western Detection of Human Cytokeratin 18 by 431 Simple Western<sup>™</sup>. Simple Western lane kDa view shows lysates of A431 human epithelial 230 180 carcinoma cell line, loaded at 0.5 mg/mL. A specific band was detected for Cytokeratin 18 116 at approximately 55 kDa (as indicated) using 2 µg/mL of Mouse Anti-Human Cytokeratin 18 Monoclonal Antibody (Catalog # MAB7619). Cytokeratin 18 This experiment was conducted under reducing conditions and using the 12-230 kDa separation system. 12

PREPARATION AND STORAGE		
Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.	
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C	
Stability & Storage	<ul> <li>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</li> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>6 months20 to -70 °C under sterile conditions after reconstitution.</li> </ul>	

### BACKGROUND

Cytokeratin 18; also KRT-18 (Keratin, type I cytoskeletal 18), Cell proliferation-inducing gene 46 and Keratin-18) is a 44-48 kDa Class I (large keratins of acidic pH) member of the intermediate filament family of proteins. Individual keratins are always expressed in tandem with a second keratin, and these are found in all epithelial cells. The class I Cytokeratin 18 heterodimerizes/polymerizes with 50-52 kDa class II KRT-8 to form 8-10 nm filaments in single strata plus hepatic epithelia. Cytokeratin 18 neterodimerizes/polymerizes with 50-52 kDa class II KRT-8 to form 8-10 nm filaments in single strata plus hepatic epithelia. Cytokeratin 18 and -8 are the first keratins to appear in the mammalian embyro. In the adult, Cytokeratin 18 appears to participate in subtractions and additions to the plasma membrane. In this regard, a number of intracellular proteins interact with Cytokeratin 18, including 14-3-3, HSPc70 and Mrj. Cytokeratin 18 may also be O-glycosylated, and when so, serves to promote Akt-1 activity, thus protecting against apoptosis. Human Cytokeratin 18 is 430 amino acids (aa) in length. It contains an N-terminal "head" region (aa 1-79), a subsequent "rod" region (aa 80-387) with two coiled segments, and a C-terminal tail region. Cytokeratin 18 possess at least 19 utilized phosphorylation sites plus five acetylated Lys residues. There are multiple isoforms that range from 20-40 kDa in size and are the result of caspase cleavage. A principal cleavage site occurs after Asp238. Over aa 239-397, human Cytokeratin 18 shares 86% aa sequence identity with mouse Cytokeratin 18.

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