

# Cytokeratin 19 (BA17): sc-53258

## BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells and have been found to be useful markers of tissue differentiation, which is directly applicable to the characterization of malignant tumors. For example, many types of cancer cells express Cytokeratin 19 (CK19), an epithelial cytoskeletal protein within the suprabasal squamous epithelium. Cytokeratin 19 is a specific marker of moderate to severe dysplasia and carcinoma *in situ* in oral cavity squamous epithelium, and measurement of Cytokeratin 19 may be a useful marker in diagnosing hepatoma. Cytokeratin 19 fragment levels in serum have been documented as a marker for lung cancer. Clinical investigations have suggested that serum CYFRA 21-1, a fragment of Cytokeratin 19, may be among the most useful tumor markers.

## CHROMOSOMAL LOCATION

Genetic locus: KRT19 (human) mapping to 17q21.2; Krt19 (mouse) mapping to 11 D.

## SOURCE

Cytokeratin 19 (BA17) is a mouse monoclonal antibody raised against mammary epithelial organoids of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Cytokeratin 19 (BA17) is recommended for detection of Cytokeratin 19 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Cytokeratin 19 siRNA (h): sc-35152, Cytokeratin 19 siRNA (m): sc-44949, Cytokeratin 19 shRNA Plasmid (h): sc-35152-SH, Cytokeratin 19 shRNA Plasmid (m): sc-44949-SH, Cytokeratin 19 shRNA (h) Lentiviral Particles: sc-35152-V and Cytokeratin 19 shRNA (m) Lentiviral Particles: sc-44949-V.

Molecular Weight of Cytokeratin 19: 40 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, SK-BR-3 cell lysate: sc-2218 or MIA PaCa-2 cell lysate: sc-2285.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

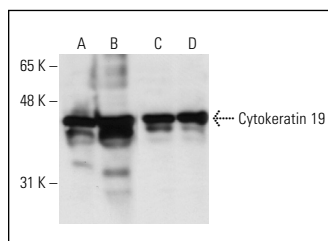
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

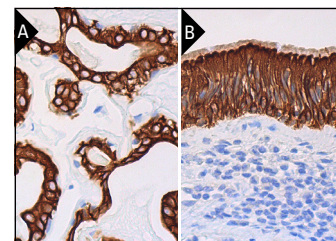
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Cytokeratin 19 (BA17): sc-53258. Western blot analysis of Cytokeratin 19 expression in MCF7 (A), SK-BR-3 (B), MIA PaCa-2 (C) and MDA-MB-231 (D) whole cell lysates.



Cytokeratin 19 (BA17): sc-53258. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic and membrane staining of respiratory epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Barrett, A., et al. 2002. PLU-1 nuclear protein, which is upregulated in breast cancer, shows restricted expression in normal human adult tissues: a new cancer/testis antigen? *Int. J. Cancer* 101: 581-588.
- Jain, R., et al. 2010. The use of Cytokeratin 19 (CK19) immunohistochemistry in lesions of the pancreas, gastrointestinal tract, and liver. *Appl. Immunohistochem. Mol. Morphol.* 18: 9-15.
- Nardone, A., et al. 2011. Long-term cultures of stem/progenitor cells from lobular and ductal breast carcinomas under non-adherent conditions. *Cytotechnology* 63: 67-80.
- Even-Desrumeaux, K., et al. 2012. Single-domain antibodies: a versatile and rich source of binders for breast cancer diagnostic approaches. *Mol. Biosyst.* 8: 2385-2394.
- Saha, S.K., et al. 2017. KRT19 directly interacts with  $\beta$ -catenin/RAC1 complex to regulate NUMB-dependent Notch signaling pathway and breast cancer properties. *Oncogene* 36: 332-349.
- Saha, S.K., et al. 2018. Cytokeratin 19 (KRT19) has a role in the reprogramming of cancer stem cell-like cells to less aggressive and more drug-sensitive cells. *Int. J. Mol. Sci.* 19: 1423.
- Saha, S.K., et al. 2019. Opposing regulation of cancer properties via KRT19-mediated differential modulation of Wnt/ $\beta$ -catenin/Notch signaling in breast and colon cancers. *Cancers* 11: 99.
- Lee, S.W., et al. 2019. Feline-type cystic basal cell tumor filled with abundant melanin pigment-rich fluid in a dog. *J. Vet. Med. Sci.* 81: 269-273.



See **Cytokeratin 19 (A-3): sc-376126** for Cytokeratin 19 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488, 546, 594, 647, 680 and 790.