

# Cytokeratin 7 (LP5K): sc-53264

## BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue, where they constitute up to 85% of mature keratinocytes in the vertebrate epidermis. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. The  $\alpha$ -helical coiled-coil dimers associate laterally end-to-end to form 10 nm diameter filaments. Cytokeratins are useful markers of tissue differentiation and, in addition, they aid in the characterization of malignant tumors. Cytokeratin 7 (also known as sarcolectin) agglutinates normal and transformed cells with a high affinity for simple sugars. Cytokeratin 7 also inhibits the synthesis of interferon-dependent secondary proteins thus reversing the antiviral effect of interferon induction and restoring cells to their status ad primum. In normal and transformed cells, Cytokeratin 7 localizes to the membrane.

## REFERENCES

1. Moll, R., et al. 1982. The catalog of human cytokeratins: patterns of expression in normal epithelia, tumors and cultured cells. *Cell* 31: 11-24.
2. Lane, E.B., et al. 1985. Keratin antigens in differentiating skin. *Ann. N.Y. Acad. Sci.* 455: 241-258.
3. Osborn, M., et al. 1986. Differential diagnosis of gastrointestinal carcinomas by using monoclonal antibodies specific for individual keratin polypeptides. *Lab. Invest.* 55: 497-504.

## CHROMOSOMAL LOCATION

Genetic locus: KRT7 (human) mapping to 12q13.13.

## SOURCE

Cytokeratin 7 (LP5K) is a mouse monoclonal antibody raised against cytoskeletal proteins from cultured Hela cells of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Cytokeratin 7 (LP5K) is recommended for detection of Cytokeratin 7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 7 siRNA (h): sc-35154, Cytokeratin 7 shRNA Plasmid (h): sc-35154-SH and Cytokeratin 7 shRNA (h) Lentiviral Particles: sc-35154-V.

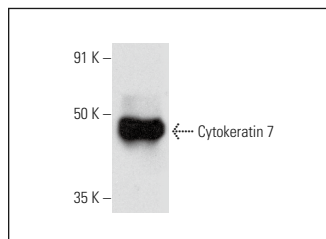
Molecular Weight of Cytokeratin 7: 54 kDa.

Positive Controls: NCI-H292 whole cell lysate: sc-364179, T24 cell lysate: sc-2292 or Hep G2 cell lysate: sc-2227.

## STORAGE

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

## DATA



Cytokeratin 7 (LP5K): sc-53264. Western blot analysis of Cytokeratin 7 expression in NCI-H292 whole cell lysate.



Cytokeratin 7 (LP5K): sc-53264. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells.

## SELECT PRODUCT CITATIONS

1. Zhang, B., et al. 2009. Protein phosphatase 1A (PPM1A) is involved in human cytotrophoblast cell invasion and migration. *Histochem. Cell Biol.* 132: 169-179.
2. Schulz, D.M., et al. 2009. Identification of differentially expressed proteins in triple-negative breast carcinomas using DIGE and mass spectrometry. *J. Proteome Res.* 8: 3430-3438.
3. Wang, J.G., et al. 2010. Primary pleomorphic liposarcoma of pericardium. *Interact. Cardiovasc. Thorac. Surg.* 11: 325-327.
4. Zhao, J., et al. 2014. Evaluation of ultrasound-processed rapid cell blocks in the cytopathologic diagnosis of cavity fluids. *Acta Cytol.* 58: 182-191.
5. Liang, R.N., et al. 2017. Ping-Chong-Jiang-Ni formula induces apoptosis and inhibits proliferation of human ectopic endometrial stromal cells in endometriosis via the activation of JNK signaling pathway. *Evid. Based Complement. Alternat. Med.* 2017: 6489427.
6. Wu, C.H., et al. 2019. Estradiol induces cell proliferation in MCF7 mammospheres through HER2/COX-2. *Mol. Med. Rep.* 19: 2341-2349.
7. Ishikawa, T., et al. 2023. Salivary gland cancer organoids are valid for preclinical genotype-oriented medical precision trials. *iScience* 26: 106695.

## 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.



See **Cytokeratin 7 (RCK105): sc-23876** for Cytokeratin 7 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.