SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 7 (LP1K): sc-53263

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 α-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.

CHROMOSOMAL LOCATION

Genetic locus: KRT7 (human) mapping to 12q13.13; Krt7 (mouse) mapping to 15 F2.

SOURCE

Cytokeratin 7 (LP1K) is a mouse monoclonal antibody raised against SV40 transformed neonatal keratinocytes of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

Cytokeratin 7 (LP1K) is recommended for detection of Cytokeratin 7 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 7 siRNA (h): sc-35154, Cytokeratin 7 siRNA (m): sc-35155, Cytokeratin 7 shRNA Plasmid (h): sc-35154-SH, Cytokeratin 7 shRNA Plasmid (m): sc-35155-SH, Cytokeratin 7 shRNA (h) Lentiviral Particles: sc-35154-V and Cytokeratin 7 shRNA (m) Lentiviral Particles: sc-35155-V.

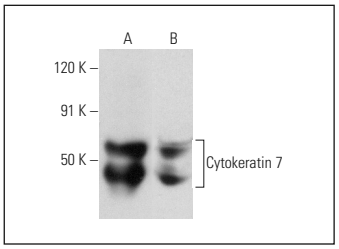
Molecular Weight of Cytokeratin 7: 54 kDa.

Positive Controls: RIN-m5F whole cell lysate: sc-364792, HeLa whole cell lysate: sc-2200 or NRK whole cell lysate: sc-364197.

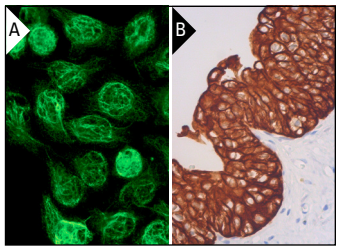
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Cytokeratin 7 (LP1K): sc-53263. Western blot analysis of Cytokeratin 7 expression in RIN-m5F (**A**) and NRK (**B**) whole cell lysates.



Cytokeratin 7 (LP1K): sc-53263. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and membrane staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Guye, P., et al. 2016. Genetically engineering self-organization of human pluripotent stem cells into a liver bud-like tissue using Gata6. Nat. Commun. 7: 10243.
2. Hu, T., et al. 2016. Aryl hydrocarbon receptor negatively regulates lipid synthesis and involves in cell differentiation of SZ95 sebocytes *in vitro*. Chem. Biol. Interact. 258: 52-58.
3. Xu, Y., et al. 2018. Transcription coactivator Cited1 acts as an inducer of trophoblast-like state from mouse embryonic stem cells through the activation of BMP signaling. Cell Death Dis. 9: 924.
4. Krishnan, A., et al. 2020. TRAIL receptor deficiency promotes the ductular reaction, macrophage accumulation and hepatic fibrosis in the Mdr2$^{-/-}$ mouse. Am. J. Pathol. 190: 1284-1297.
5. Tanabe, A., et al. 2022. YTHDC2 promotes malignant phenotypes of breast cancer cells. J. Oncol. 2022: 9188920.
6. Ding, X., et al. 2022. Establishment and characterization of a new human intrahepatic cholangiocarcinoma cell line LIV27. Cancers 14: 5080.

CONJUGATES

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.