SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 18 (DA-7): sc-51583

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. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. Cytokeratins have been found to be useful markers of tissue differentiation which is directly applicable to the characterization of malignant tumors. For example, Cytokeratins 10 and 13 are expressed highly in a subset of squamous cell carcinomas while Cytokeratin 18 is expressed in a majority of adenocarcinomas and basal cell carcinomas. Cytokeratin 18 contains two major phosphorylation sites on Ser 33 and Ser 52. Phosphorylation of Ser 18 is essential for the association of cytokeratin 18 with 14-3-3 proteins and is involved in keratin organization and distribution.

REFERENCES

1. Lauerova, L., et al. 1988. Novel monoclonal antibodies defining epitope of human Cytokeratin 18 molecule. Hybridoma 7: 495-504.
2. Vojtesek, B., et al. 1989. Monoclonal antibodies recognizing different epitopes of Cytokeratin No.18. Folia Biol. 35: 373-382.
3. van der Velden, L.A., et al. 1993. Cytokeratin expression in normal and (pre) malignant head and neck epithelia: an overview. Head Neck 15: 133-146.
4. Silen, A., et al. 1994. Evaluation of a new tumor marker for Cytokeratin 8 and 18 fragments in healthy individuals and prostate cancer patients. Prostate 24: 326-332.
5. Quillien, V., et al. 1995. Serum and tissue distribution of a fragment of Cytokeratin 19 (cyfra 21-1) in lung cancer patients. Anticancer Res. 15: 2857-2863.
6. Marceau, N. and Loranger, A. 1995. Cytokeratin expression, fibrillar organization and subtle function in liver cells. Biochem. Cell Biol. 73: 619-625.

CHROMOSOMAL LOCATION

Genetic locus: KRT18 (human) mapping to 12q13.13.

SOURCE

Cytokeratin 18 (DA-7) is a mouse monoclonal antibody raised against breast carcinoma cell line PMC-42 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 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

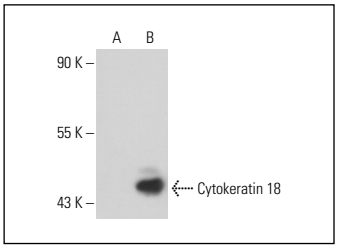
Cytokeratin 18 (DA-7) is recommended for detection of Cytokeratin 18 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 18 siRNA (h): sc-35151, Cytokeratin 18 shRNA Plasmid (h): sc-35151-SH and Cytokeratin 18 shRNA (h) Lentiviral Particles: sc-35151-V.

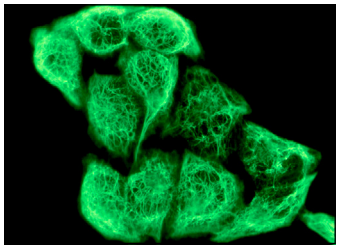
Molecular Weight of Cytokeratin 18: 45 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or Cytokeratin 18 (h3): 293 Lysate: sc-112918.

DATA



Cytokeratin 18 (DA-7): sc-51583. Western blot analysis of Cytokeratin 18 expression in non-transfected: sc-110760 (**A**) and human Cytokeratin 18 transfected: sc-112918 (**B**) 293 whole cell lysates.



Cytokeratin 18 (DA-7): sc-51583. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

1. Striker, G.E., et al. 2008. Regulation of Angiotensin II receptors and extracellular matrix turnover in human retinal pigment epithelium: role of Angiotensin II. Am. J. Physiol., Cell Physiol. 295: C1633-C1646.
2. Kim, H.J., et al. 2016. PIN1 suppresses the hepatic differentiation of pulp stem cells via Wnt3a. J. Dent. Res. 95: 1415-1424.
3. Wang, J., et al. 2019. Cathelicidin suppresses colon cancer metastasis via a P2RX7-dependent mechanism. Mol. Ther. Oncolytics 12: 195-203.
4. Catalano, S., et al. 2019. Phosphodiesterase 5 (PDE5) is highly expressed in cancer-associated fibroblasts and enhances breast tumor progression. Cancers 11: 1740.
5. Liu, Z., et al. 2021. Wnt ligands 3a and 5a regulate proliferation and migration in human fetal liver progenitor cells. Transl. Gastroenterol. Hepatol. 6: 56.

CONJUGATES

See **Cytokeratin 18 (RGE53): sc-32329** for Cytokeratin 18 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.