SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 18 (2X44): sc-70917

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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.

CHROMOSOMAL LOCATION

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

SOURCE

Cytokeratin 18 (2X44) is a mouse monoclonal antibody raised against cytokeratins from the human bladder carcinoma cell line T24.

PRODUCT

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

Cytokeratin 18 (2X44) is available conjugated to either phycoerythrin (sc-70917 PE) or fluorescein (sc-70917 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

Cytokeratin 18 (2X44) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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.

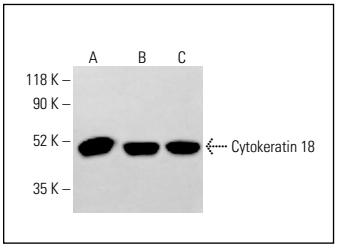
Molecular Weight of Cytokeratin 18: 45 kDa.

Positive Controls: HCT-116 whole cell lysate: sc-364175, K-562 whole cell lysate or HeLa whole cell lysate: sc-2200.

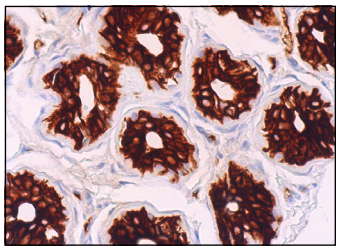
RECOMMENDED SUPPORT REAGENTS

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 18 (2X44): sc-70917. Western blot analysis of Cytokeratin 18 expression in HeLa (**A**), K-562 (**B**) and HCT-116 (**C**) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



Cytokeratin 18 (2X44): sc-70917. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic and membrane staining of sweat glandular cells.

SELECT PRODUCT CITATIONS

1. Wu, W., et al. 2017. Differentiation of nestin-negative human hair follicle outer root sheath cells into neurons *in vitro*. Mol. Med. Rep. 16: 95-100.
2. Luo, Y., et al. 2018. β-catenin nuclear translocation induced by HIF-1α overexpression leads to the radioresistance of prostate cancer. Int. J. Oncol. 52: 1827-1840.
3. Huang, X., et al. 2019. Arrayed microfluidic chip for detection of circulating tumor cells and evaluation of drug potency. Anal. Biochem. 564-565: 64-71.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.