SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 18 (B23.1.): sc-58727



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 are 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.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

Cytokeratin 18 (B23.1.) is a mouse monoclonal antibody raised against PMC-42 breast carcinoma cells 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.

APPLICATIONS

Cytokeratin 18 (B23.1.) 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 μ g per 100-500 μ g 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 μ g per 1 x 10⁶ 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: Cytokeratin 18 (h): 293 Lysate: sc-110494, MCF7 whole cell lysate: sc-2206 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-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA





Cytokeratin 18 (B23.1.): sc-58727. Western blot analysis of Cytokeratin 18 expression in nontransfected 293: sc-110760 (**A**), human Cytokeratin 18 transfected 293: sc-110494 (**B**) and HeLa (**C**) whole cell lysates. Cytokeratin 18 (B23.1.): sc-58727. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic and membrane staining of sweat glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoskeletal staining of hepatocytes and bile duct cells (**B**).

SELECT PRODUCT CITATIONS

 Mustapha, P., et al. 2014. Chemokines and antimicrobial peptides have a cag-dependent early response to *Helicobacter pylori* infection in primary human gastric epithelial cells. Infect. Immun. 82: 2881-2889.

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.

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.