SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 4 (6B10): sc-52321

BACKGROUND

Cytokeratins are a subfamily of intermediate filament keratins that are characterized by a remarkable biochemical diversity, which is represented in human epithelial tissues by at least 20 different polypeptides. Cytokeratins range in isoelectric range between 4.9 and 7.8. Cytokeratin 1 has the highest molecular weight, while Cytokeratin 19 has the lowest molecular weight. The cytokeratins are divided into the type I and type II subgroups. Type II family members comprise the basic to neutral members, Cytokeratins 1-8, while the type I group comprises the acidic members, Cytokeratins 9-20. Various epithelia in the human body usually express Cytokeratins which are characteristic of the type of epithelium and related to the degree of maturation or differentiation within said epithelium. Cytokeratin subtype expression patterns are used to an increasing extent in the distinction of different types of epithelial malignancies. Cytokeratin 4 is expressed in differentiated layers of the mucosal and esophageal epithelia along with Cytokeratin 13.

CHROMOSOMAL LOCATION

Genetic locus: KRT4 (human) mapping to 12q13.13; Krt4 (mouse) mapping to 15 F3.

SOURCE

Cytokeratin 4 (6B10) is a mouse monoclonal antibody raised against cytokeratin preparation from esophagus cells of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Cytokeratin 4 (6B10) is recommended for detection of Cytokeratin 4 of mouse, rat, human, hamster and Guinea porcine 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).

Cytokeratin 4 (6B10) is also recommended for detection of Cytokeratin 4 in additional species, including porcine, caprine, feline and canine.

Suitable for use as control antibody for Cytokeratin 4 siRNA (h): sc-72078, Cytokeratin 4 siRNA (m): sc-142764, Cytokeratin 4 shRNA Plasmid (h): sc-72078-SH, Cytokeratin 4 shRNA Plasmid (m): sc-142764-SH, Cytokeratin 4 shRNA (h) Lentiviral Particles: sc-72078-V and Cytokeratin 4 shRNA (m) Lentiviral Particles: sc-142764-V.

Molecular Weight of Cytokeratin 4: 67 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

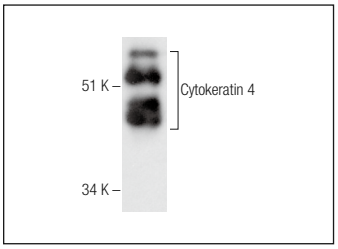
STORAGE

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

REEARCH USE

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

DATA



Cytokeratin 4 (6B10): sc-52321. Western blot analysis of Cytokeratin 4 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Polachini, G.M., et al. 2012. Proteomic approaches identify members of cofilin pathway involved in oral tumorigenesis. PLoS ONE 7: e50517.
2. Kang, S.Y.C., et al. 2015. Characterization of epithelial progenitors in normal human palatine tonsils and their HPV16 E6/E7-induced perturbation. Stem Cell Reports 5: 1210-1225.
3. Suzuki, D., et al. 2017. Inhibition of TGF-β signaling supports high proliferative potential of diverse $p63^+$ mouse epithelial progenitor cells *in vitro*. Sci. Rep. 7: 6089.
4. Ruiz García, S., et al. 2019. Novel dynamics of human mucociliary differentiation revealed by single-cell RNA sequencing of nasal epithelial cultures. Development 146: dev177428.
5. Sapkota, D., et al. 2024. Investigation of roles of SLC38A1 in proliferation and differentiation of mouse tongue epithelium and expression in human oral tongue squamous cell carcinoma. Cancers 16: 405.

PROTOCOLS

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

CONJUGATES

See **pan-Cytokeratin (C11): sc-8018** for pan-Cytokeratin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.