SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 4 (5F132): sc-70919

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.

REFERENCES

1. van Muijen, G.N., et al. 1986. Cell type heterogeneity of cytokeratin expression in complex epithelia and carcinomas as demonstrated by monoclonal antibodies specific for cytokeratins nos. 4 and 13. Exp. Cell Res. 162: 97-113.
2. Broekaert, D., et al. 1990. An investigation of cytokeratin expression in skin epithelial cysts and some uncommon types of cystic tumours using chain-specific antibodies. Arch. Dermatol. Res. 282: 383-391.
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. Silen, A., et al. 1995. A novel IRMA and ELISA for quantifying cytokeratin 8 and 18 fragments in the sera of healthy individuals and cancer patients. Scand. J. Clin. Lab. Invest. 55: 153-161.

CHROMOSOMAL LOCATION

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

SOURCE

Cytokeratin 4 (5F132) 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.

STORAGE

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

APPLICATIONS

Cytokeratin 4 (5F132) is recommended for detection of Cytokeratin 4 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

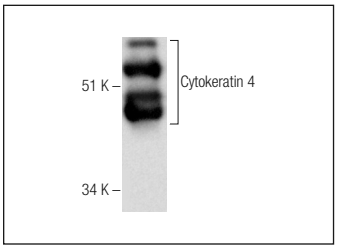
Cytokeratin 4 (5F132) is also recommended for detection of Cytokeratin 4 in additional species, including porcine, feline and canine.

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.

DATA



Cytokeratin 4 (5F132): sc-70919. Western blot analysis of Cytokeratin 4 expression in HeLa whole cell lysate.

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