SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 6 (Ks6.KA12): sc-58735

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue, where they constitute up to 85% of mature keratinocytes in the vertebrate epidermis. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. The α-helical coiled-coil dimers associate laterally end-to-end to form 10 nm diameter filaments. Cytokeratins, which are useful markers of tissue differentiation, also aid in the characterization of malignant tumors. Interleukin-1 and TNFα induce transcription of Cytokeratin 6 in epidermal keratinocytes via the C/EBP β transcription factor. In humans, multiple isoforms of Cytokeratin 6 (6A-6F), encoded by several highly homologous genes, have distinct tissue expression patterns, and Cytokeratin 6A is the dominant form in epithelial tissue. The gene encoding human Cytokeratin 6A maps to chromosome 12q13, and mutations in this gene are linked to several inheritable hair and skin pathologies.

REFERENCES

1. 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.
2. Takahashi, K., et al. 1995. Cloning and characterization of multiple human genes and cDNAs encoding highly related type II keratin 6 isoforms. J. Biol. Chem. 270: 18581-18592.
3. Marceau, N. and Loranger, A. 1995. Cytokeratin expression, fibrillar organization and subtle function in liver cells. Biochem. Cell Biol. 73: 619-625.
4. Fuchs, E. 1995. Keratins and the skin. Annu. Rev. Cell Dev. Biol. 11: 123-153.
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. Mukhopadhyay, T. and Roth, J.A. 1996. Functional inactivation of p53 by antisense RNA induces invasive ability of lung carcinoma cells and down-regulates Cytokeratin synthesis. Anticancer Res. 16: 1683-1689.
7. Lin, M.T., et al. 1999. Identification of sporadic mutations in the helix initiation motif of keratin 6 in two pachyonychia congenita patients: further evidence for a mutational hot spot. Exp. Dermatol. 8: 115-119.
8. Komine, M., et al. 2000. Inflammatory versus proliferative processes in epidermis. Tumor necrosis factor α induces K6b keratin synthesis through a transcriptional complex containing NFκB and C/EBPb. J. Biol. Chem. 275: 32077-32088.
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CHROMOSOMAL LOCATION

Genetic locus: KRT6C (human) mapping to 12q13.13; Krt6a/Krt6b (mouse) mapping to 15 F2.

SOURCE

Cytokeratin 6 (Ks6.KA12) is a mouse monoclonal antibody raised against a cytoskeletal preparation of callus material of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Cytokeratin 6 (Ks6.KA12) is recommended for detection of Cytokeratin 6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Molecular Weight of Cytokeratin 6: 56 kDa.

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

SELECT PRODUCT CITATIONS

1. Domaszewska-Szostek, A., et al. 2016. Hyperkeratosis in human lower limb lymphedema: the effect of stagnant tissue fluid/lymph. J. Eur. Acad. Dermatol. Venereol. 30: 1002-1008.
2. Kasai, Y., et al. 2016. Brush biopsy of human oral mucosal epithelial cells as a quality control of the cell source for fabrication of transplantable epithelial cell sheets for regenerative medicine. Regen. Ther. 4: 71-77.

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.