# 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, which exist as a-helical coiled-coil dimers that associate laterally end-to-end to form 10 nm diameter filaments, play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. Cytokeratins, which are useful markers of tissue differentiation, also aid in the characterization of malignant tumors. IL-1 and TNFa induce transcription of Cytokeratin 6 in epidermal keratinocytes via the C/EBP b transcription factor. In humans, multiple isoforms of Cytokeratin 6 (6A-6F), encoded by several highly homologous genes, have distinct tissue expression patterns. Cytokeratin 6A is the dominant form in epithelial tissue. The gene encoding human Cytokeratin 6A maps to chromosome 12q13.13 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 downregulates 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  $\alpha$  induces K6b keratin synthesis through a transcriptional complex containing NFkB and C/EBPb. J. Biol. Chem. 275: 32077-32088.
- 9. Horev, L., et al. 2000. Monilethrix: mutational hotspot in the helix termination motif of the human hair basic keratin 6. Hum. Hered. 50: 325-330.

#### **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  $\mu$ g lgG<sub>1</sub> in 1.0 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 paraffinembedded 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.



#### 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.