

Cytokeratin 14 (DE-SPK14): sc-58725

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed in 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 are useful markers of tissue differentiation, and in addition they aid in the characterization of malignant tumors. In Bowen's disease, the characteristic malignancy of the epidermis exhibits distinct expression patterns of Cytokeratin 14. The gene encoding human Cytokeratin 14 maps to chromosome 17q21.2. Mutations in this gene lead to epidermolysis bullosa simplex, an inherited skin disorder characterized by skin blistering due to basal keratinocyte fragility.

REFERENCES

1. Rosenberg, M., et al. 1988. A group of type I keratin genes on human chromosome 17: characterization and expression. *Mol. Cell. Biol.* 8: 722-736.
2. Bonifas, J.M., et al. 1991. Epidermolysis bullosa simplex: evidence in two families for keratin gene abnormalities. *Science* 254: 1202-1205.
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. Chan, Y., et al. 1994. A human keratin 14 "knockout": the absence of K14 leads to severe epidermolysis bullosa simplex and a function for an intermediate filament protein. *Genes Dev.* 8: 2574-2587.
5. Marceau, N., et al. 1995. Cytokeratin expression, fibrillar organization and subtle function in liver cells. *Biochem. Cell Biol.* 73: 619-625.
6. Fuchs, E. 1995. Keratins and the skin. *Annu. Rev. Cell Dev. Biol.* 11: 123-153.
7. Chen, H., et al. 1995. Keratin 14 gene mutations in patients with epidermolysis bullosa simplex. *J. Invest. Dermatol.* 105: 629-632.
8. 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.
9. Mukhopadhyay, T., et al. 1996. Functional inactivation of p53 by antisense RNA induces invasive ability of lung carcinoma cells and downregulates cytokeratin synthesis. *Anticancer Res.* 16: 1683-1689.

CHROMOSOMAL LOCATION

Genetic locus: KRT14 (human) mapping to 17q21.2; Krt14 (mouse) mapping to 11 D.

SOURCE

Cytokeratin 14 (DE-SPK14) is a mouse monoclonal antibody raised against amino acids 459-472 of Cytokeratin 14 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Cytokeratin 14 (DE-SPK14) is recommended for detection of Cytokeratin 14 of mouse, rat, human and feline 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 flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for Cytokeratin 14 siRNA (h): sc-43309, Cytokeratin 14 siRNA (m): sc-43310, Cytokeratin 14 shRNA Plasmid (h): sc-43309-SH, Cytokeratin 14 shRNA Plasmid (m): sc-43310-SH, Cytokeratin 14 shRNA (h) Lentiviral Particles: sc-43309-V and Cytokeratin 14 shRNA (m) Lentiviral Particles: sc-43310-V.

Molecular Weight of Cytokeratin 14: 50 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.

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 **Cytokeratin 14 (LL001): sc-53253** for Cytokeratin 14 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.