

Cytokeratin 14 (RCK107): sc-23878

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.

CHROMOSOMAL LOCATION

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

SOURCE

Cytokeratin 14 (RCK107) is a mouse monoclonal antibody raised against cytoskeletal preparation of TR146 epithelial cells.

PRODUCT

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

APPLICATIONS

Cytokeratin 14 (RCK107) is recommended for detection of Cytokeratin 14 of mouse, rat, human, porcine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

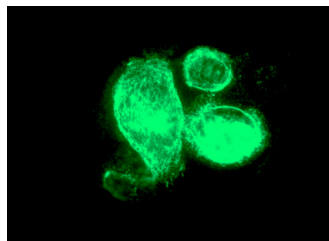
STORAGE

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.

DATA



Cytokeratin 14 (RCK107): sc-23878. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

1. Saxena, A.K., et al. 2009. Esophagus tissue engineering: *in vitro* generation of esophageal epithelial cell sheets and viability on scaffold. *J. Pediatr. Surg.* 44: 896-901.
2. Petek, L.M., et al. 2010. Efficient KRT14 targeting and functional characterization of transplanted human keratinocytes for the treatment of epidermolysis bullosa simplex. *Mol. Ther.* 18: 1624-1632.
3. Kuppan, P., et al. 2013. PCL and PCL-gelatin nanofibers as esophageal tissue scaffolds: optimization, characterization and cell-matrix interactions. *J. Biomed. Nanotechnol.* 9: 1540-1555.
4. Kuppan, P., et al. 2014. Poly(3-hydroxybutyrate-co-3-hydroxyvalerate)-based nanofibrous scaffolds to support functional esophageal epithelial cells towards engineering the esophagus. *J. Biomater. Sci. Polym. Ed.* 25: 574-593.
5. Wu, Y., et al. 2015. TrAmplification of human dental follicle cells by piggyBac transposon-mediated reversible immortalization system. *PLoS ONE* 10: e0130937.
6. 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.
7. Castro-Muñozledo, F., et al. 2017. Vimentin as a marker of early differentiating, highly motile corneal epithelial cells. *J. Cell. Physiol.* 232: 818-830.
8. Xia, S., et al. 2020. Coupled CRC 2D and ALI 3D cultures express receptors of emerging viruses and are more suitable for the study of viral infections compared to conventional cell lines. *Stem Cells Int.* 2020: 2421689.
9. Wu, M., et al. 2022. The first human vulvar intraepithelial neoplasia cell line with naturally infected episomal HPV18 genome. *Viruses* 14: 2054.



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.