SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 17 (E3): sc-58726

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The Power to Question

BACKGROUND

Cytokeratin 17 is a member of the cytokeratin subfamily of intermediate filament proteins (IFPs). It is unique in that it is normally expressed in the basal cells of complex epithelia but not in stratified or simple epithelia. Cytokeratin 17 contains 432 amino acids and is expressed in the nail bed, hair follicle, sebaceous glands and other epidermal appendages. Cytokeratin 17 functions to regulate cell growth and size through its interactions with the adaptor protein 14-3-3-σ to mediate protein synthesis. Mutations in the gene encoding for Cytokeratin 17 lead to depressed protein translation and smaller sized skin keratinocytes, corresponding to decreased Akt/mTOR signaling activity. Cytokeratin 17 may be a useful marker for cervical stem cell identification, squamous cell carcinoma of the larynx, respiratory syncytial virus and transitional cell carcinomas of the human urinary tract.

REFERENCES

1. Guelstein, V.I., et al. 1993. Immunohistochemical localization of Cytokeratin 17 in transitional cell carcinomas of the human urinary tract. Virchows Arch., B, Cell Pathol. 64: 1-5.
2. Troyanovsky, S.M. and Leube, R.E. 1994. Activation of the silent human Cytokeratin 17 pseudogene-promoter region by cryptic enhancer elements of the Cytokeratin 17 gene. Eur. J. Biochem. 225: 61-69.
3. Vogel, U. and Böttger, E.C. 1995. Control of Cytokeratin 17 expression by interferon-γ. Immunobiology 193: 322-327.
4. Domachowske, J.B., et al. 2000. Cytokeratin 17 is expressed via NFκB activation and is associated with the formation of cytopathic syncytia. J. Infect. Dis. 188: 1022-1028.
5. Bonnekoh, B., et al. 2001. Dithranol and dimethylfumarate suppress the interferon-γ-induced upregulation of Cytokeratin 17 as a putative psoriasis autoantigen *in vitro*. Skin Pharmacol. Appl. Skin Physiol. 14: 217-225.
6. Murata, T., et al. 2002. Phosphorylation of Cytokeratin 17 by herpes simplex virus type 2 US3 protein kinase. Microbiol. Immunol. 46: 707-719.
7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 148069. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: KRT17 (human) mapping to 17q21.2; Krt17 (mouse) mapping to 11 D.

SOURCE

Cytokeratin 17 (E3) is a mouse monoclonal antibody raised against a cytoskeletal colon preparation of rat origin.

PRODUCT

Each vial contains 50 µg IgG_{2b} in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Cytokeratin 17 (E3) is recommended for detection of Cytokeratin 17 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:1000), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:100-1:1000), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:100-1:1000 (ABC system)) and flow cytometry (1:25-1:200 per 1 x 10^6 cells).

Suitable for use as control antibody for Cytokeratin 17 siRNA (h): sc-43311, Cytokeratin 17 siRNA (m): sc-43312, Cytokeratin 17 shRNA Plasmid (h): sc-43311-SH, Cytokeratin 17 shRNA Plasmid (m): sc-43312-SH, Cytokeratin 17 shRNA (h) Lentiviral Particles: sc-43311-V and Cytokeratin 17 shRNA (m) Lentiviral Particles: sc-43312-V.

Molecular Weight of Cytokeratin 17: 46 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or Hep G2 cell lysate: sc-2227.

SELECT PRODUCT CITATIONS

1. Lo, B.K., et al. 2010. CXCR3/ligands are significantly involved in the tumorigenesis of basal cell carcinomas. Am. J. Pathol. 176: 2435-2446.
2. Saghizadeh, M., et al. 2013. Enhanced wound healing, kinase and stem cell marker expression in diabetic organ-cultured human corneas upon MMP-10 and cathepsin F gene silencing. Invest. Ophthalmol. Vis. Sci. 54: 8172-8180.
3. Saghizadeh, M., et al. 2014. Normalization of wound healing and stem cell marker patterns in organ-cultured human diabetic corneas by gene therapy of limbal cells. Exp. Eye Res. 129: 66-73.
4. Kramerov, A.A., et al. 2015. Persistence of reduced expression of putative stem cell markers and slow wound healing in cultured diabetic limbal epithelial cells. Mol. Vis. 21: 1357-1367.
5. Kramerov, A.A., et al. 2021. Novel nanopolymer RNA therapeutics normalize human diabetic corneal wound healing and epithelial stem cells. Nanomedicine 32: 102332.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.