SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 17 (E-4): sc-393002

SANTA CRUZ BIOTECHNOLOGY

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.

CHROMOSOMAL LOCATION

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

SOURCE

Cytokeratin 17 (E-4) is a mouse monoclonal antibody raised against amino acids 392-432 mapping at the C-terminus of Cytokeratin 17 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cytokeratin 17 (E-4) is available conjugated to agarose (sc-393002 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393002 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393002 PE), fluorescein (sc-393002 FITC), Alexa Fluor® 488 (sc-393002 AF488), Alexa Fluor® 546 (sc-393002 AF546), Alexa Fluor® 594 (sc-393002 AF594) or Alexa Fluor® 647 (sc-393002 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393002 AF680) or Alexa Fluor® 790 (sc-393002 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Cytokeratin 17 (E-4) is recommended for detection of Cytokeratin 17 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

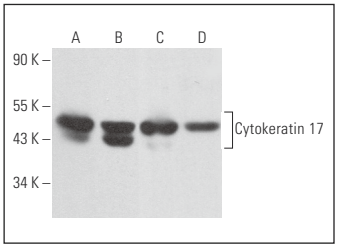
Molecular Weight of Cytokeratin 17: 46 kDa.

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

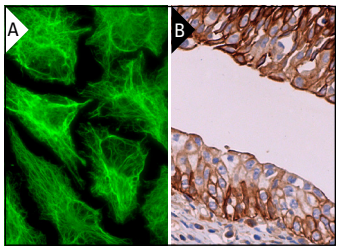
STORAGE

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

DATA



Cytokeratin 17 (E-4): sc-393002. Western blot analysis of Cytokeratin 17 expression in HeLa (**A**), SCC-4 (**B**) and A-431 (**C**) whole cell lysates and mouse skin tissue extract (**D**).



Cytokeratin 17 (E-4): sc-393002. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and membrane staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Lim, S.C., et al. 2019. Keratin 6, induced by chronic cisplatin exposure, confers chemoresistance in human gastric carcinoma cells. Oncol. Rep. 42: 797-804.
2. Jacob, J.T., et al. 2020. Keratin 17 regulates nuclear morphology and chromatin organization. J. Cell Sci. 133: jcs254094.
3. Nair, R.R., et al. 2021. A role for Keratin 17 during DNA damage response and tumor initiation. Proc. Natl. Acad. Sci. USA 118: e2020150118.
4. Kiyokawa, H., et al. 2021. Airway basal stem cells reutilize the embryonic proliferation regulator, Tgfβ-Id2 axis, for tissue regeneration. Dev. Cell 56: 1917-1929.e9.
5. Hattori, K., et al. 2021. Induction of synergistic non-apoptotic cell death by simultaneously targeting proteasomes with bortezomib and histone deacetylase 6 with ricolinostat in head and neck tumor cells. Oncol. Lett. 22: 680.
6. Pang, B., et al. 2021. Keratin 17 is required for lipid metabolism in keratinocytes and benefits epidermal permeability barrier homeostasis. Front. Cell Dev. Biol. 9: 779257.
7. Luo, Y., et al. 2022. Keratin 17 promotes T cell response in allergic contact dermatitis by upregulating C-C motif chemokine ligand 20. Front. Immunol. 13: 764793.
8. Zheng, M., et al. 2022. CXCL12 inhibits hair growth through CXCR4. Biomed. Pharmacother. 150: 112996.
9. Kathiriya, J.J., et al. 2022. Human alveolar type 2 epithelium transdifferentiates into metaplastic KRT5+ basal cells. Nat. Cell Biol. 24: 10-23.

RESEARCH USE

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