SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 18 (C-04): sc-51582

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytokeratin 18 (also designated KRT18 antibody, or Keratin 18 antibody) comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. Cytokeratins have been found to be useful markers of tissue differentiation which is directly applicable to the characterization of malignant tumors. For example, Cytokeratins 10 and 13 are expressed highly in a subset of squamous cell carcinomas while Cytokeratin 18 is expressed in a majority of adenocarcinomas and basal cell carcinomas. Cytokeratin 18 contains two major phosphorylation sites on Ser 33 and Ser 52. Phosphorylation of Ser 18 is essential for the association of Cytokeratin 18 with 14-3-3 proteins and is involved in keratin organization and distribution.

CHROMOSOMAL LOCATION

Genetic locus: KRT18 (human) mapping to 12q13.13; Krt18 (mouse) mapping to 15 F3.

SOURCE

Cytokeratin 18 (C-04) is a mouse monoclonal antibody raised against cytoskeleton preparation of A-431 epidermal carcinoma cell line of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cytokeratin 18 (C-04) is available conjugated to agarose (sc-51582 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-51582 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-51582 PE), fluorescein (sc-51582 FITC), Alexa Fluor® 488 (sc-51582 AF488), Alexa Fluor® 546 (sc-51582 AF546), Alexa Fluor® 594 (sc-51582 AF594) or Alexa Fluor® 647 (sc-51582 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-51582 AF680) or Alexa Fluor® 790 (sc-51582 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Cytokeratin 18 (C-04) is recommended for detection of Cytokeratin 18 of mouse, rat, human, bovine, porcine and canine origin by Western Blotting (starting dilution 1:200, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

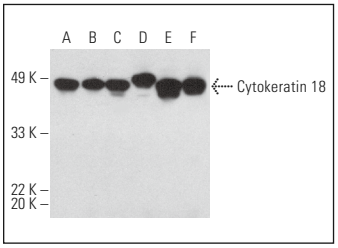
Suitable for use as control antibody for Cytokeratin 18 siRNA (h): sc-35151, Cytokeratin 18 siRNA (m): sc-45406, Cytokeratin 18 shRNA Plasmid (h): sc-35151-SH, Cytokeratin 18 shRNA Plasmid (m): sc-45406-SH, Cytokeratin 18 shRNA (h) Lentiviral Particles: sc-35151-V and Cytokeratin 18 shRNA (m) Lentiviral Particles: sc-45406-V.

Molecular Weight of Cytokeratin 18: 45 kDa.

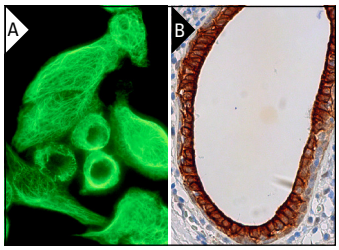
STORAGE

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

DATA



Cytokeratin 18 (C-04) HRP: sc-51582 HRP. Direct western blot analysis of Cytokeratin 18 expression in MTE1D (**A**), T24 (**B**), Hep G2 (**C**), c4 (**D**), PC-3 (**E**) and SK-BR-3 (**F**) whole cell lysates.



Cytokeratin 18 (C-04): sc-51582. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and membrane staining of cells in salivary duct (**B**).

SELECT PRODUCT CITATIONS

1. Caires, K.C., et al. 2008. Endocrine regulation of the establishment of spermatogenesis in pigs. Reprod. Domest. Anim. 43: 280-287.
2. Cui, J., et al. 2016. All-*trans* retinoic acid inhibits proliferation, migration, invasion and induces differentiation of hepa1-6 cells through reversing EMT *in vitro*. Int. J. Oncol. 48: 349-357.
3. Li, H., et al. 2017. OIP5, a target of miR-15b-5p, regulates hepatocellular carcinoma growth and metastasis through the Akt/mTORC1 and β-catenin signaling pathways. Oncotarget 8: 18129-18144.
4. Zhang, M., et al. 2018. Annexin A2 positively regulates milk synthesis and proliferation of bovine mammary epithelial cells through the mTOR signaling pathway. J. Cell. Physiol. 233: 2464-2475.
5. Yuan, X., et al. 2019. NUCKS1 is a novel regulator of milk synthesis in and proliferation of mammary epithelial cells via the mTOR signaling pathway. J. Cell. Physiol. 234: 15825-15835.
6. Yuan, X., et al. 2020. NCOA5 is a master regulator of amino acid-induced mTOR activation and β-casein synthesis in bovine mammary epithelial cells. Biochem. Biophys. Res. Commun. 529: 569-574.
7. Moroki, T., et al. 2021. Databases for technical aspects of immunohistochemistry: 2021 update. J. Toxicol. Pathol. 34: 161-180.
8. Jin, X., et al. 2022. GPRC6A is a key mediator of palmitic acid regulation of lipid synthesis in bovine mammary epithelial cells. Cell Biol. Int. 46: 1747-1758.
9. Naama, M., et al. 2023. Pluripotency-independent induction of human trophoblast stem cells from fibroblasts. Nat. Commun. 14: 3359.

RESEARCH USE

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