

Cytokeratin 18 (RGE53): sc-32329

BACKGROUND

Cytokeratins 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 (RGE53) is a mouse monoclonal antibody raised against a cytoskeletal preparation of cells.

PRODUCT

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

Cytokeratin 18 (RGE53) is available conjugated to agarose (sc-32329 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32329 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32329 PE), fluorescein (sc-32329 FITC), Alexa Fluor® 488 (sc-32329 AF488), Alexa Fluor® 546 (sc-32329 AF546), Alexa Fluor® 594 (sc-32329 AF594) or Alexa Fluor® 647 (sc-32329 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32329 AF680) or Alexa Fluor® 790 (sc-32329 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Cytokeratin 18 (RGE53) is recommended for detection of Cytokeratin 18 of mouse, rat, human and bovine 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)], immunohistochemistry (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells); not recommended for paraffin-embedded sections.

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.

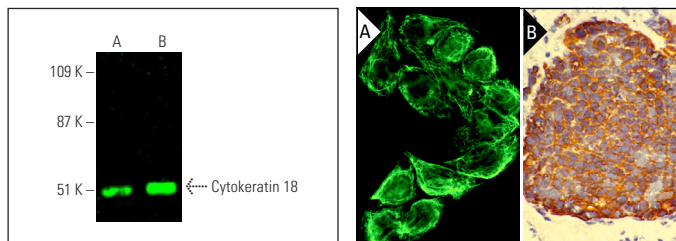
Molecular Weight of Cytokeratin 18: 45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or SK-BR-3 cell lysate: sc-2218.

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 (RGE53): sc-32329. Near-infrared western blot analysis of Cytokeratin 18 expression in SK-BR-3 (A) and MCF7 (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

Cytokeratin 18 (RGE53): sc-32329. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (A). Immunoperoxidase staining of human small cell lung carcinoma. Kindly provided by MUBio, Netherlands (B).

SELECT PRODUCT CITATIONS

1. Yadav, N., et al. 2009. The therapeutic effect of bone marrow-derived liver cells in the phenotypic correction of murine hemophilia A. *Blood* 114: 4552-4561.
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3. Lee, D.F., et al. 2018. Isolation and characterisation of alveolar type II pneumocytes from adult bovine lung. *Sci. Rep.* 8: 11927.
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5. Onoyama, I., et al. 2020. Loss of Fbxw7 impairs development of and induces heterogeneous tumor formation in the mouse mammary gland. *Cancer Res.* 80: 5515-5530.
6. Wang, W., et al. 2021. Single-cell proteomic profiling identifies nanoparticle enhanced therapy for triple negative breast cancer stem cells. *Cells* 110: 2842.
7. Bizzozero, L., et al. 2022. Tumoral neuropilin 1 promotes cancer-nerve interactions and synergizes with the glial cell line-derived neurotrophic factor. *Cells* 11: 280.
8. Pal, A., et al. 2023. Circulatory extracellular vesicle derived miR-195-5p promotes cellular apoptosis and suppresses cell proliferation in the buffalo endometrial primary cell culture. *Sci. Rep.* 13: 16703.
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10. Min, E.K., et al. 2025. Advanced lung-on-a-chip technology: mimicking the complex human lung microenvironment. *Int. J. Biol. Sci.* 21: 17-39.

RESEARCH USE

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