SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 19 (A53-B/A2): sc-6278

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 and have been found to be useful markers of tissue differentiation, which is directly applicable to the characterization of malignant tumors. For example, many types of cancer cells express Cytokeratin 19 (CK19), an epithelial cytoskeletal protein within the suprabasal squamous epithelium. Cytokeratin 19 is a specific marker of moderate to severe dysplasia and carcinoma *in situ* in oral cavity squamous epithelium, and measurement of Cytokeratin 19 may be a useful marker in diagnosing hepatoma. Cytokeratin 19 fragment levels in serum have been documented as a marker for lung cancer. Clinical investigations have suggested that serum CYFRA 21-1, a fragment of Cytokeratin 19, may be among the most useful tumor markers.

CHROMOSOMAL LOCATION

Genetic locus: KRT19 (human) mapping to 17q21.2.

SOURCE

Cytokeratin 19 (A53-B/A2) is a mouse monoclonal antibody raised against breast carcinoma cell line MCF7 of human origin.

PRODUCT

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

Cytokeratin 19 (A53-B/A2) is available conjugated to agarose (sc-6278 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6278 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-6278 PE), fluorescein (sc-6278 FITC), Alexa Fluor® 488 (sc-6278 AF488), Alexa Fluor® 546 (sc-6278 AF546), Alexa Fluor® 594 (sc-6278 AF594) or Alexa Fluor® 647 (sc-6278 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-6278 AF680) or Alexa Fluor® 790 (sc-6278 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Cytokeratin 19 (A53-B/A2) is recommended for detection of amino acids 312-335 of Cytokeratin 19 of human 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 19 siRNA (h): sc-35152, Cytokeratin 19 shRNA Plasmid (h): sc-35152-SH and Cytokeratin 19 shRNA (h) Lentiviral Particles: sc-35152-V.

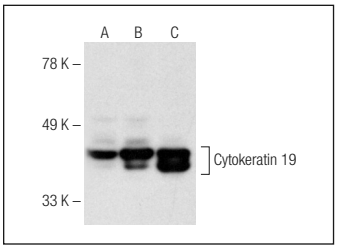
Molecular Weight of Cytokeratin 19: 40 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, MIA PaCa-2 cell lysate: sc-2285 or MDA-MB-231 cell lysate: sc-2232.

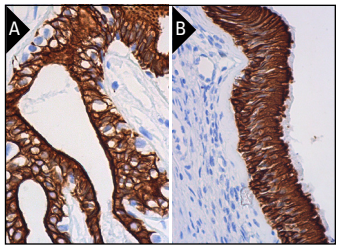
STORAGE

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

DATA



Cytokeratin 19 (A53-B/A2): sc-6278. Western blot analysis of Cytokeratin 19 expression in MCF7 (**A**), MIA PaCa-2 (**B**) and MDA-MB-231 (**C**) whole cell lysates.



Cytokeratin 19 (A53-B/A2): sc-6278. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic and membrane staining of respiratory epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Conget, P.A., et al. 1999. Phenotypical and functional properties of human bone marrow mesenchymal progenitor cells. J. Cell. Physiol. 181: 67-73.
2. Amornsupak, K., et al. 2014. Cancer-associated fibroblasts induce high mobility group box 1 and contribute to resistance to doxorubicin in breast cancer cells. BMC Cancer 14: 955.
3. Dinets, A., et al. 2015. Differential protein expression profiles of cyst fluid from papillary thyroid carcinoma and benign thyroid lesions. PLoS ONE 10: e0126472.
4. Bell, C.C., et al. 2016. Characterization of primary human hepatocyte spheroids as a model system for drug-induced liver injury, liver function and disease. Sci. Rep. 6: 25187.
5. Lustri, A.M., et al. 2017. TGF-β signaling is an effective target to impair survival and induce apoptosis of human cholangiocarcinoma cells: a study on human primary cell cultures. PLoS ONE 12: e0183932.
6. Utaijaratrasmi, P., et al. 2018. The microRNA-15a-PAI-2 axis in cholangiocarcinoma-associated fibroblasts promotes migration of cancer cells. Mol. Cancer 17: 10.
7. Sharma, P., et al. 2019. Keratin 19 regulates cell cycle pathway and sensitivity of breast cancer cells to CDK inhibitors. Sci. Rep. 9: 14650.
8. Sonongbua, J., et al. 2020. Periostin induces epithelial-to-mesenchymal transition via the integrin α5β1/TWIST-2 axis in cholangiocarcinoma. Oncol. Rep. 43: 1147-1158.
9. Di Matteo, S., et al. 2021. Metformin exerts anti-cancerogenic effects and reverses epithelial-to-mesenchymal transition trait in primary human intrahepatic cholangiocarcinoma cells. Sci. Rep. 11: 2557.

RESEARCH USE

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