SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 5/8 (C50): sc-8021

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. Cytokeratin 5 is expressed in normal basal cells. Mutations of the Cytokeratin 5 gene (KRT5) have been shown to result in the autosomal dominant disorder epidermolysis bullosa (EB). Cytokeratin 8 expression is seen in epithelium and epithelium-derived tumors 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.

REFERENCES

1. van der Velden, L.A., et al. 1993. Cytokeratin expression in normal and (pre) malignant head and neck epithelia: an overview. Head Neck 15: 133-146.
2. Silen, A., et al. 1994. Evaluation of a new tumor marker for Cytokeratin 8 and 18 fragments in healthy individuals and prostate cancer patients. Prostate 24: 326-332.

CHROMOSOMAL LOCATION

Genetic locus: KRT5/KRT8 (human) mapping to 12q13.13.

SOURCE

Cytokeratin 5/8 (C50) is a mouse monoclonal antibody raised against cytoskeletal preparation of HeLa cells.

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 5/8 (C50) is available conjugated to either phycoerythrin (sc-8021 PE) or Alexa Fluor® 488 (sc-8021 AF488) or Alexa Fluor® 647 (sc-8021 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

Cytokeratin 5/8 (C50) is recommended for detection of Cytokeratin 5/8 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with Cytokeratin 18.

Molecular Weight of Cytokeratin 5: 58 kDa.

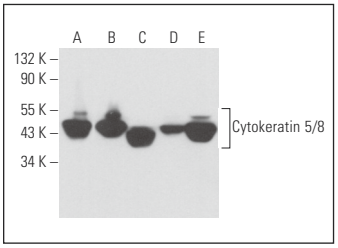
Molecular Weight of Cytokeratin 8: 55 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A549 cell lysate: sc-2413 or Hep G2 cell lysate: sc-2227.

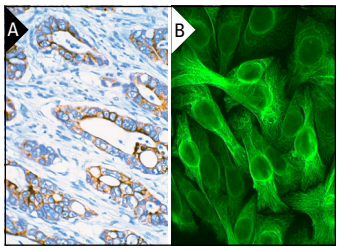
STORAGE

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

DATA



Cytokeratin 5/8 (C50): sc-8021. Western blot analysis of Cytokeratin 5/8 expression in Hep G2 (**A**), MCF7 (**B**), T24 (**C**), JAR (**D**) and A549 (**E**) whole cell lysates.



Cytokeratin 5/8 (C50): sc-8021. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma tissue showing cytoskeletal localization (**A**). Cytokeratin 5/8 (C50) Alexa Fluor® 488: sc-8021 AF488 Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoskeletal localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Kim, H.L., et al. 2001. Mitogen-activated protein kinase kinase 4 metastasis suppressor gene expression is inversely related to histological pattern in advancing human prostatic cancers. Cancer Res. 61: 2833-2837.
2. Lai, P.S., et al. 2006. Overexpression of RB1 transcript is significantly correlated with 13q14 allelic imbalance in colorectal carcinomas. Int. J. Cancer 119: 1061-1066.
3. Pearce, V.P., et al. 2008. Immortalization of epithelial progenitor cells mediated by resveratrol. Oncogene 27: 2365-2374.
4. Carmona, F.D., et al. 2010. Development of the cornea of true moles *(Talpidae):* morphogenesis and expression of PAX6 and cytokeratins. J. Anat. 217: 488-500.
5. Wei, Q., et al. 2013. Keratinocyte cytoskeletal roles in cell sheet engineering. BMC Biotechnol. 13: 17.
6. Iannolo, G., et al. 2016. Numb expression contributes to the maintenance of an undifferentiated state in human epidermis. Cell Transplant. 25: 353-364.
7. Jaiswal, S.K., et al. 2024. The Megacomplex protects ER-α from degradation by Fulvestrant in epithelial ovarian cancer. Cancer Lett. 22: 217129.

RESEARCH USE

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

PROTOCOLS

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