SANTA CRUZ BIOTECHNOLOGY, INC.

pan-Cytokeratin (PK110): sc-53403

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. Gatter, K.C., et al. 1985. Human lung tumours: a correlation of antigenic profile with histological type. Histopathology 9: 805-823.
2. Pulford, K.A., et al. 1985. The characterization of two monoclonal anti-keratin antibodies and their use in the study of epithelial disorders. Histopathology 9: 825-840.
3. Broekaert, D., et al. 1990. An investigation of Cytokeratin expression in skin epithelial cysts and some uncommon types of cystic tumours using chain-specific antibodies. Arch. Dermatol. Res. 282: 383-391.
4. 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.
5. 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.

SOURCE

pan-Cytokeratin (PK110) is a mouse monoclonal antibody raised against epidermal keratin 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.

RESEARCH USE

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

APPLICATIONS

pan-Cytokeratin (PK110) is recommended for detection of broad range of Cytokeratin proteins 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).

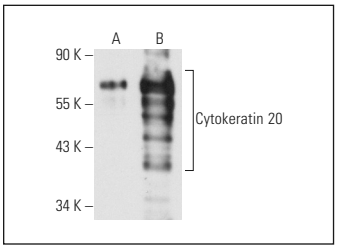
Molecular Weight of pan-Cytokeratin: 40-59 kDa.

Positive Controls: Cytokeratin 20 (h): 293T Lysate: sc-174535, HeLa whole cell lysate: sc-2200 or T24 cell lysate: sc-2292.

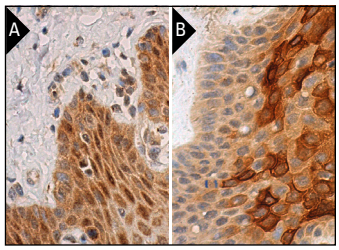
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



pan-Cytokeratin (PK110): sc-53403. Western blot analysis of Cytokeratin 20 expression in non-transfected: sc-117752 (**A**) and human Cytokeratin 20 transfected: sc-174535 (**B**) 293T whole cell lysates.



pan-Cytokeratin (PK110): sc-53403. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic and nuclear staining of squamous epithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic and membrane staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Grassilli, S., et al. 2014. High nuclear level of Vav1 is a positive prognostic factor in early invasive breast tumors: a role in modulating genes related to the efficiency of metastatic process. Oncotarget 5: 4320-4336.
2. Harrington, H., et al. 2014. Immunocompetent 3D model of human upper airway for disease modeling and *in vitro* drug evaluation. Mol. Pharm. 11: 2082-2091.
3. Cao, L., et al. 2016. A hybrid chalcone combining the trimethoxyphenyl and isatinyl groups targets multiple oncogenic proteins and pathways in hepatocellular carcinoma cells. PLoS ONE 11: e0161025.
4. Kim, M.J., et al. 2017. Thyroid-related protein expression in the human thymus. Int. J. Endocrinol. 2017: 8159892.

STORAGE

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

CONJUGATES

See **pan-Cytokeratin (C11): sc-8018** for pan-Cytokeratin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.