

# pan-Cytokeratin (7H8C4): sc-81703

## 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

- Gatter, K.C., et al. 1985. Human lung tumours: a correlation of antigenic profile with histological type. *Histopathology* 9: 805-823.
- 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.
- 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.
- 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.
- 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.
- Marceau, N. and Loranger, A. 1995. Cytokeratin expression, fibrillar organization and subtle function in liver cells. *Biochem. Cell Biol.* 73: 619-625.
- Silen, A., et al. 1995. A novel IRMA and ELISA for quantifying Cytokeratin 8 and 18 fragments in the sera of healthy individuals and cancer patients. *Scand. J. Clin. Lab. Invest.* 55: 153-161.
- Quillien, V., et al. 1995. Serum and tissue distribution of a fragment of Cytokeratin 19 (CYFRA 21-1) in lung cancer patients. *Anticancer Res.* 15: 2857-2863.

## SOURCE

pan-Cytokeratin (7H8C4) is a mouse monoclonal antibody raised against a recombinant protein corresponding to cytokeratin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

pan-Cytokeratin (7H8C4) is recommended for detection of a broad range of Cytokeratin proteins of mouse, rat and 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).

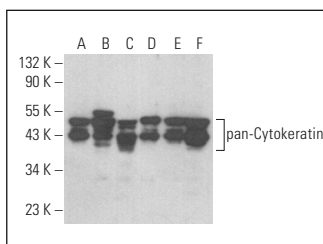
Molecular Weight of pan-Cytokeratin: 40-59 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

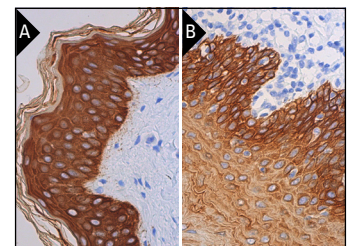
## RECOMMENDED SUPPORT REAGENTS

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 (7H8C4): sc-81703. Western blot analysis of pan-Cytokeratin expression in HeLa (A), A-431 (B), Hep G2 (C), SW480 (D), MCF7 (E) and A549 (F) whole cell lysates.



pan-Cytokeratin (7H8C4): sc-81703. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, Langerhans cells and melanocytes (A) and human esophagus tissue showing cytoplasmic and membrane staining of squamous epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Lan, Y., et al. 2023. Opsin 3 mediates UVA-induced keratinocyte supranuclear melanin cap formation. *Commun. Biol.* 6: 238.

## RESEARCH USE

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



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.