

# pan-Cytokeratin (AE1/AE3): sc-81714

## 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.

## SOURCE

pan-Cytokeratin (AE1/AE3) is a mouse monoclonal antibody raised against epidermal keratins 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.

pan-Cytokeratin (AE1/AE3) is available conjugated to HRP (sc-81714 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

## APPLICATIONS

pan-Cytokeratin (AE1/AE3) is recommended for detection of most acidic (type I) and basic (type II) Cytokeratins of mouse, rat, human, bovine, and rabbit 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).

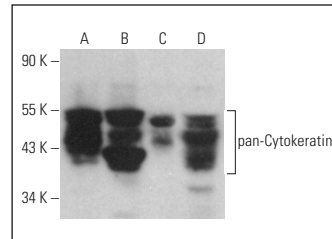
Molecular Weight of pan-Cytokeratin: 40-59 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, KNRK whole cell lysate: sc-2214 or HeLa whole cell lysate: sc-2200.

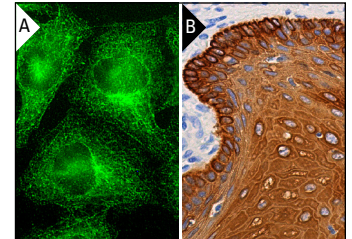
## STORAGE

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

## DATA



pan-Cytokeratin (AE1/AE3): sc-81714. Western blot analysis of pan-Cytokeratin expression in HeLa (A), HEK293 (B), Neuro-2A (C) and KNRK (D) whole cell lysates.



pan-Cytokeratin (AE1/AE3): sc-81714. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (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

- Su, L., et al. 2011. Putative rabbit conjunctival epithelial stem/progenitor cells preferentially reside in palpebral conjunctiva. *Curr. Eye Res.* 36: 797-803.
- Zhang, Z., et al. 2014. Endothelial cell-secreted EGF induces epithelial to mesenchymal transition and endows head and neck cancer cells with stem-like phenotype. *Cancer Res.* 74: 2869-2881.
- Yoshioka, H., et al. 2015. The dynamics of DNA methylation and hydroxymethylation during amelogenesis. *Histochem. Cell Biol.* 144: 471-478.
- Huang, C., et al. 2016. Light-emitting diode irradiation (640 nm) regulates keratinocyte migration and cytoskeletal reorganization via hypoxia-inducible factor-1α. *Photomed. Laser Surg.* 34: 313-320.
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- Naipal, K.A., et al. 2016. Tumor slice culture system to assess drug response of primary breast cancer. *BMC Cancer* 16: 78.
- Lv, X., et al. 2016. Electrospun poly(l-lactide)/poly(ethylene glycol) scaffolds seeded with human amniotic mesenchymal stem cells for urethral epithelium repair. *Int. J. Mol. Sci.* pii: E1262.

## 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.