SANTA CRUZ BIOTECHNOLOGY, INC.

# Cytokeratin 16 (LL025): sc-53255

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. The cytokeratin proteins play a critical role in differentiation, as well as tissue specialization and function, to maintain the overall structural integrity of epithelial cells. Cytokeratins are also useful markers in identifying the origin of metastatic tumors. Cytokeratin 16 is expressed in benign stratified squamous epithelium and squamous cell carcinoma of the head and neck, as well as luminal cells of mammary gland and sweat ducts. It is absent in noninvasive breast carcinomas and normal breast tissue. Mutations in the Cytokeratin 16 gene cause various diseases, including pachyonychia congenita type 1 (PC1), nonepidermolytic palmoplantar keratoderma (NEPPK) and unilateral palmoplantar verrucous nevus (UPVN).

## CHROMOSOMAL LOCATION

Genetic locus: KRT16 (human) mapping to 17q21.2; Krt16 (mouse) mapping to 11 D.

## SOURCE

Cytokeratin 16 (LL025) is a mouse monoclonal antibody raised against a C-terminal synthetic peptide of Cytokeratin 16 of human origin.

## 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 16 (LL025) is available conjugated to agarose (sc-53255 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53255 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53255 PE), fluorescein (sc-53255 FITC), Alexa Fluor® 488 (sc-53255 AF488), Alexa Fluor® 546 (sc-53255 AF546), Alexa Fluor® 594 (sc-53255 AF594) or Alexa Fluor® 647 (sc-53255 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53255 AF680) or Alexa Fluor® 790 (sc-53255 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## APPLICATIONS

Cytokeratin 16 (LL025) is recommended for detection of Cytokeratin 16 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).

Suitable for use as control antibody for Cytokeratin 16 siRNA (h): sc-60498, Cytokeratin 16 siRNA (m): sc-60499, Cytokeratin 16 shRNA Plasmid (h): sc-60498-SH, Cytokeratin 16 shRNA Plasmid (m): sc-60499-SH, Cytokeratin 16 shRNA (h) Lentiviral Particles: sc-60498-V and Cytokeratin 16 shRNA (m) Lentiviral Particles: sc-60499-V.

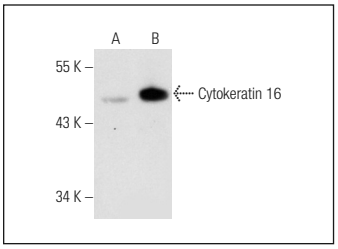
Molecular Weight of Cytokeratin 16: 48 kDa.

Positive Controls: Cytokeratin 16 (h): 293T Lysate: sc-113846 or HeLa whole cell lysate: sc-2200.

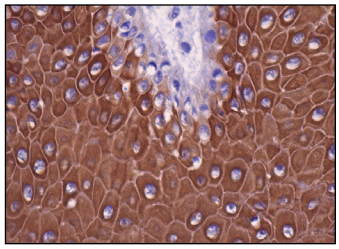
## STORAGE

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

## DATA




Cytokeratin 16 (LL025): sc-53255. Western blot analysis of Cytokeratin 16 expression in non-transfected: sc-117752 (**A**) and human Cytokeratin 16 transfected: sc-113846 (**B**) 293T whole cell lysates.



Cytokeratin 16 (LL025): sc-53255. Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic staining of squamous epithelial cells.

## SELECT PRODUCT CITATIONS

1. Ahenkorah, J., et al. 2009. Immunofluorescence confocal laser scanning microscopy and immuno-electron microscopic identification of keratins in human materno-foetal interaction zone. J. Cell. Mol. Med. 13: 735-748.
2. Nittayananta, W., et al. 2012. Changes in oral cytokeratin expression in HIV-infected subjects with long-term use of HAART. Oral Dis. 18: 793-801.
3. Pontiggia, L., et al. 2014. *De novo* epidermal regeneration using human eccrine sweat gland cells: higher competence of secretory over absorptive cells. J. Invest. Dermatol. 134: 1735-1742.
4. Elango, T., et al. 2015. Methotrexate normalized keratinocyte activation cycle by overturning abnormal keratins as well as deregulated inflammatory mediators in psoriatic patients. Clin. Chim. Acta 451: 329-337.
5. Cubillos, S. and Norgauer, J. 2016. Low vitamin D-modulated calcium-regulating proteins in psoriasis vulgaris plaques: S100A7 overexpression depends on joint involvement. Int. J. Mol. Med. 38: 1083-1092.
6. Lim, S.C., et al. 2019. Keratin 6, induced by chronic cisplatin exposure, confers chemoresistance in human gastric carcinoma cells. Oncol. Rep. 42: 797-804.
7. Sanz-Gómez, N., et al. 2020. Squamous differentiation requires $G_2$/mitosis slippage to avoid apoptosis. Cell Death Differ. 27: 2451-2467.
8. Molinuevo, R., et al. 2020. The DNA damage response links human squamous proliferation with differentiation. J. Cell Biol. 219: e202001063.
9. de Pedro, I., et al. 2021. p21CIP1 controls the squamous differentiation response to replication stress. Oncogene 40: 152-162.
10. Domaszewska-Szostek, A., et al. 2021. An anhydrous sodium chloride skin preservation model for studies on keratinocytes grafting into the wounds. Pharmaceutics 13: 2078.

## RESEARCH USE

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