SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 8/18 (0.N.352): sc-70939

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. They have been found to be useful markers of tissue differentiation, which is directly applicable to the characterization of malignant tumors. Cytokeratin 8 expression is seen in epithelium and epithelium-derived tumors. The Cytokeratin 8 and 18 pair are normally expressed in simple epithelia, but not in stratified epithelial cells. Research indicates that squamous cell carcinomas derived from stratified epithelia show abnormal expression of Cytokeratin 8 and 18, although it is not known whether these proteins contribute to the malignant phenotype of the cells. Expression of Cytokeratin 8 and 18 in oral squamous cell carcinomas is an independent prognostic marker that indicates a poor prognosis. Cytokeratin 8 expression correlates with malignancy in leukoplakia and carcinomas of the head and neck; it is expressed in all non-small-cell lung cancers. Cytokeratin 8 has been shown to possess extracellular epitopes on tumor cells, which may represent valuable targets for therapy.

REFERENCES

1. Lane, E.B., et al. 1985. Keratin antigens in differentiating skin. Ann. N.Y. Acad. Sci. 455: 241-258.
2. Leube, R.E., et al. 1986. Cytokeratin expression in simple epithelia. III. Detection of mRNAs encoding human Cytokeratins nos. 8 and 18 in normal and tumor cells by hybridization with cDNA sequences *in vitro* and *in situ*. Differentiation 33: 69-85.
3. Van Muijen, G.N., et al. 1987. Differentiation-related changes of cytokeratin expression in cultured keratinocytes and in fetal, newborn and adult epidermis. Exp. Cell Res. 171: 331-345.

CHROMOSOMAL LOCATION

Genetic locus: KRT8/KRT18 (human) mapping to 12q13.13; Krt8/Krt18 (mouse) mapping to 15 F3.

SOURCE

Cytokeratin 8/18 (0.N.352) is a mouse monoclonal antibody raised against breast carcinoma cell line MCF7.

PRODUCT

Each vial contains 500 µl ascites containing IgG_{2a} with < 0.1% sodium azide.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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

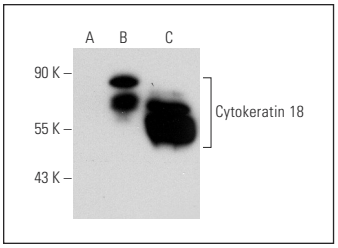
APPLICATIONS

Cytokeratin 8/18 (0.N.352) is recommended for detection of Cytokeratin 8 and Cytokeratin 18 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [10-20 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

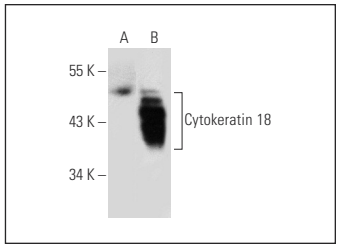
Molecular Weight of Cytokeratin 8/18: 40-55 kDa.

Positive Controls: Cytokeratin 18 (h): 293 Lysate: sc-110494, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

DATA



Cytokeratin 8/18 (0.N.352): sc-70939. Western blot analysis of Cytokeratin 18 expression in non-transfected 293: sc-110760 (**A**), human Cytokeratin 18 transfected 293: sc-110494 (**B**) and HeLa (**C**) whole cell lysates.



Cytokeratin 8/18 (0.N.352): sc-70939. Western blot analysis of Cytokeratin 18 expression in non-transfected: sc-110760 (**A**) and human Cytokeratin 18 transfected: sc-112918 (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Rene Gonzalez, R., et al. 2009. Leptin-signaling inhibition results in efficient anti-tumor activity in estrogen receptor positive or negative breast cancer. Breast Cancer Res. 11: R36.
2. Gnemmi, V., et al. 2014. MUC1 drives epithelial-mesenchymal transition in renal carcinoma through Wnt/β-catenin pathway and interaction with SNAIL promoter. Cancer Lett. 346: 225-236.

RESEARCH USE

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

CONJUGATES

See **Cytokeratin 18 (RGE53): sc-32329** for Cytokeratin 18 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.