SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 19 (N-13): sc-33119

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 and have been found to be useful markers of tissue differentiation, which is directly applicable to the characterization of malignant tumors. For example, many types of cancer cells express Cytokeratin 19 (CK19), an epithelial cytoskeletal protein within the suprabasal squamous epithelium. Cytokeratin 19 is a specific marker of moderate to severe dysplasia and carcinoma *in situ* in oral cavity squamous epithelium, and measurement of Cytokeratin 19 may be a useful marker in diagnosing hepatoma. Cytokeratin 19 fragment levels in serum have been documented as a marker for lung cancer. Clinical investigations have suggested that serum CYFRA 21-1, a fragment of Cytokeratin 19, may be among the most useful tumor markers.

CHROMOSOMAL LOCATION

Genetic locus: KRT19 (human) mapping to 17q21.2; Krt19 (mouse) mapping to 11 D.

SOURCE

Cytokeratin 19 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Cytokeratin 19 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33119 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cytokeratin 19 (N-13) is recommended for detection of Cytokeratin 19 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cytokeratin 19 (N-13) is also recommended for detection of Cytokeratin 19 in additional species, including equine.

Suitable for use as control antibody for Cytokeratin 19 siRNA (h): sc-35152, Cytokeratin 19 siRNA (m): sc-44949, Cytokeratin 19 shRNA Plasmid (h): sc-35152-SH, Cytokeratin 19 shRNA Plasmid (m): sc-44949-SH, Cytokeratin 19 shRNA (h) Lentiviral Particles: sc-35152-V and Cytokeratin 19 shRNA (m) Lentiviral Particles: sc-44949-V.

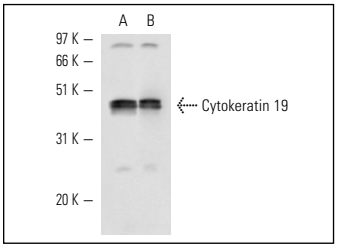
Molecular Weight of Cytokeratin 19: 40 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, MCF7 whole cell lysate: sc-2206 or SK-BR-3 cell lysate: sc-2218.

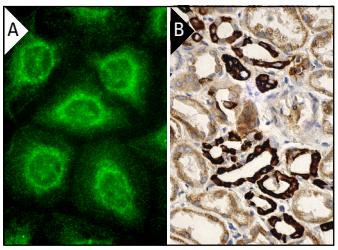
STORAGE

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

DATA



Cytokeratin 19 (N-13): sc-33119. Western blot analysis of Cytokeratin 19 expression in SK-BR-3 (**A**) and MCF7 (**B**) whole cell lysates.



Cytokeratin 19 (N-13): sc-33119. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoskeletal staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Tsamandas, A.C., et al. 2007. Oval cell proliferation in cirrhosis in rats. An experimental study. Hepatol. Res. 37: 755-764.
2. Zhang, H.H., et al. 2007. Macrophage-colony stimulating factor is required for the production of neutrophil-promoting activity by mouse embryo fibroblasts deficient in G-CSF and GM-CSF. J. Leukoc. Biol. 82: 915-925.
3. Chen, L.P., et al. 2010. Rapamycin inhibits cholangiocyte regeneration by blocking interleukin-6-induced activation of signal transducer and activator of transcription 3 after liver transplantation. Liver Transpl. 16: 204-214.
4. Zhou, J., et al. 2010. Epimorphin regulates bile duct formation via effects on mitosis orientation in rat liver epithelial stem-like cells. PLoS ONE 5: e9732.
5. Assimakopoulos, S.F., et al. 2010. Bombesin and neurotensin exert antiproliferative effects on oval cells and augment the regenerative response of the cholestatic rat liver. Peptides 31: 2294-2303.
6. Jia, Y., et al. 2011. Role of epimorphin in bile duct formation of rat liver epithelial stem-like cells: involvement of small G protein RhoA and C/EBPβ. J. Cell. Physiol. 226: 2807-2816.
7. Karaöz, E., et al. 2011. Human dental pulp stem cells demonstrate better neural and epithelial stem cell properties than bone marrow-derived mesenchymal stem cells. Histochem. Cell Biol. 136: 455-473.
8. Wen, Y.A., et al. 2011. Biliary intervention aggravates cholestatic liver injury, and induces hepatic inflammation, proliferation and fibrogenesis in BDL mice. Exp. Toxicol. Pathol. 63: 277-284.
9. Yilmaz, S., et al. 2013. Mesenchymal stem cell: does it work in an experimental model with acute respiratory distress syndrome? Stem Cell Rev. 9: 80-92.

RESEARCH USE

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