SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 19 (M-17): sc-33111

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.

REFERENCES

1. Van Eyken, P., et al. 1991. Immunocytochemistry of cytokeratins in primary human liver tumors. APMIS Suppl. 23: 77-85.
2. Coltrera, M.D., et al.1992. Markers for dysplasia of the upper aerodigestive tract. Suprabasal expression of PCNA, p53 and CK19 in alcohol-fixed, embedded tissue. Am. J. Pathol. 141: 817-825.
3. 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.
4. Marceau, N., et al. 1995. Cytokeratin expression, fibrillar organization and subtle function in liver cells. Biochem. Cell Biol. 73: 619-625.
5. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Cytokeratin 19 (M-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Cytokeratin 19 of mouse 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-33111 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Cytokeratin 19 (M-17) is recommended for detection of Cytokeratin 19 of mouse 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).

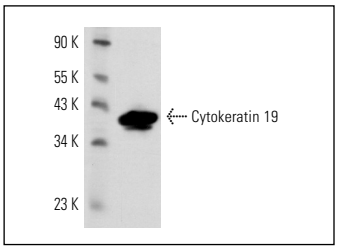
Cytokeratin 19 (M-17) is also recommended for detection of Cytokeratin 19 in additional species, including canine.

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.

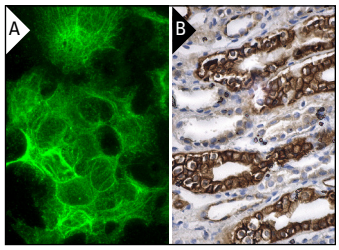
Molecular Weight of Cytokeratin 19: 40 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, Hep G2 cell lysate: sc-2227 or Caco-2 cell lysate: sc-2262.

DATA



Cytokeratin 19 (M-17): sc-33111. Western blot analysis of Cytokeratin 19 expression in SK-BR-3 whole cell lysate.



Cytokeratin 19 (M-17): sc-33111. Immunofluorescence staining of formalin-fixed HepG2 cells showing cytoskeletal localization (**A**). Immunoper-oxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoskeletal staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Kuver, R., et al. 2007. Murine gallbladder epithelial cells can differentiate into hepatocyte-like cells *in vitro*. Am. J. Physiol. Gastrointest. Liver Physiol. 293: G944-G955.
2. Chiu, C.C., et al. 2009. Global gene expression profiling reveals a key role of CD44 in hepatic oval-cell reaction after 2-AAF/CCl4 injury in rodents. Histochem. Cell Biol. 132: 479-489.
3. Menendez, A., et al. 2009. Salmonella infection of gallbladder epithelial cells drives local inflammation and injury in a model of acute typhoid fever. J. Infect. Dis. 200: 1703-1713.
4. O'Dell, M.R., et al. 2012. Kras(G12D) and p53 mutation cause primary intrahepatic cholangiocarcinoma. Cancer Res. 72: 1557-1567.

RESEARCH USE

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