

Cytokeratin 19 (A-3): sc-376126

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.

CHROMOSOMAL LOCATION

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

SOURCE

Cytokeratin 19 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 7-29 at the N-terminus of Cytokeratin 19 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cytokeratin 19 (A-3) is available conjugated to agarose (sc-376126 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376126 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-376126 PE), fluorescein (sc-376126 FITC) or Alexa Fluor® 488 (sc-376126 AF488) or Alexa Fluor® 647 (sc-376126 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-376126 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 (A-3) 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).

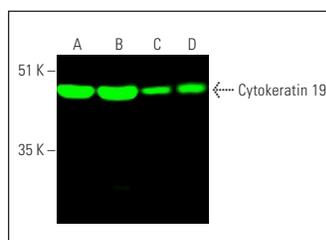
Cytokeratin 19 (A-3) is also recommended for detection of Cytokeratin 19 in additional species, including equine.

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.

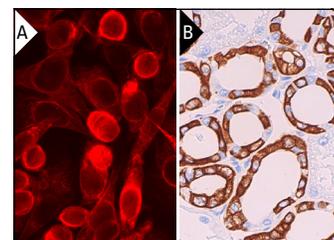
Molecular Weight of Cytokeratin 19: 40 kDa.

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

DATA



Cytokeratin 19 (A-3): sc-376126. Near-infrared western blot analysis of Cytokeratin 19 expression in SK-BR-3 (A), MCF7 (B) and Hep G2 (C) whole cell lysates and human breast tissue extract (D). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



Cytokeratin 19 (A-3) Alexa Fluor® 647: sc-376126 AF647. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoskeletal localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (A). Cytokeratin 19 (A-3): sc-376126. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and membrane staining of cells in tubules. Blocking reagent used: UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-HRP: sc-516102 (B).

SELECT PRODUCT CITATIONS

1. Kozono, S., et al. 2013. Pirfenidone inhibits pancreatic cancer desmoplasia by regulating stellate cells. *Cancer Res.* 73: 2345-2356.
2. Ghosh, A., et al. 2018. MIND model for triple-negative breast cancer in syngeneic mice for quick and sequential progression analysis of lung metastasis. *PLoS ONE* 13: e0198143.
3. Eyre, R., et al. 2019. Microenvironmental IL1β promotes breast cancer metastatic colonisation in the bone via activation of Wnt signalling. *Nat. Commun.* 10: 5016.

RESEARCH USE

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

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