SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 13 (A-3): sc-390982

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. Cytokeratins have been found to be useful markers of tissue differentiation, which is directly applicable to the characterization of malignant tumors. Cytokeratins 10 and 13 are present in the cytoskeletal region of a subset of squamous cell carcinomas. Cytokeratin 13 belongs to the intermediate filament family and is a heterotetramer of two type I acidic and two type II basic keratins. It is generally associated with Cytokeratin 4. Defects in the KRT13 gene are a cause of white sponge nevus of cannon (WSN), a rare autosomal dominant disorder which predominantly affects noncornified stratified squamous epithelia and is characterized by the presence of soft, white and spongy plaques in the oral mucosa.

REFERENCES

1. Richard, G., et al. 1995. Keratin 13 point mutation underlies the hereditary mucosal epithelial disorder white sponge nevus. Nat. Genet. 11: 453-455.
2. Rugg, E., et al. 1999. Identification of two novel mutations in keratin 13 as the cause of white sponge naevus. Oral Dis. 5: 321-324.
3. Terrinoni, A., et al. 2001. A novel mutation in the keratin 13 gene causing oral white sponge nevus. J. Dent. Res. 80: 919-923.
4. Chao, S.C., et al. 2003. A novel mutation in the keratin 4 gene causing white sponge naevus. Br. J. Dermatol. 148: 1125-1128.

CHROMOSOMAL LOCATION

Genetic locus: KRT13 (human) mapping to 17q21.2; Krt13 (mouse) mapping to 11 D.

SOURCE

Cytokeratin 13 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 128-163 within an internal region of Cytokeratin 13 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 13 (A-3) is available conjugated to agarose (sc-390982 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390982 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390982 PE), fluorescein (sc-390982 FITC), Alexa Fluor® 488 (sc-390982 AF488), Alexa Fluor® 546 (sc-390982 AF546), Alexa Fluor® 594 (sc-390982 AF594) or Alexa Fluor® 647 (sc-390982 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390982 AF680) or Alexa Fluor® 790 (sc-390982 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390982 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

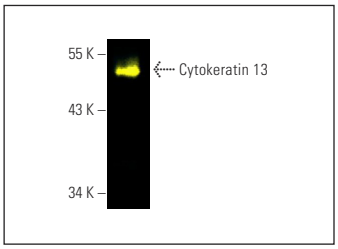
Cytokeratin 13 (A-3) is recommended for detection of Cytokeratin 13 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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).

Suitable for use as control antibody for Cytokeratin 13 siRNA (h): sc-43308, Cytokeratin 13 siRNA (m): sc-44558, Cytokeratin 13 shRNA Plasmid (h): sc-43308-SH, Cytokeratin 13 shRNA Plasmid (m): sc-44558-SH, Cytokeratin 13 shRNA (h) Lentiviral Particles: sc-43308-V and Cytokeratin 13 shRNA (m) Lentiviral Particles: sc-44558-V.

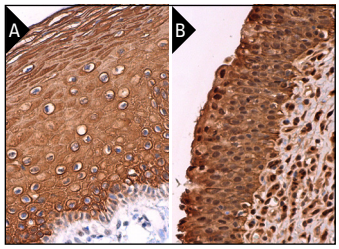
Molecular Weight of Cytokeratin 13: 52 kDa.

Positive Controls: human cervix extract: sc-363756.

DATA



Cytokeratin 13 (A-3) Alexa Fluor® 488: sc-390982 AF488. Direct fluorescent western blot analysis of Cytokeratin 13 expression in human cervix tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214.



Cytokeratin 13 (A-3): sc-390982. Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing cytoplasmic staining of squamous epithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Sanz-Gómez, N., et al. 2020. Squamous differentiation requires G_2/mitosis slippage to avoid apoptosis. Cell Death Differ. 27: 2451-2467.
2. Maehara, O., et al. 2021. FGFR2 maintains cancer cell differentiation via Akt signaling in esophageal squamous cell carcinoma. Cancer Biol. Ther. 22: 372-380.
3. Bhol, C.S., et al. 2022. PAX9 reactivation by inhibiting DNA methyltransferase triggers antitumor effect in oral squamous cell carcinoma. Biochim. Biophys. Acta Mol. Basis Dis. 1868: 166428.

STORAGE

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

RESEARCH USE

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