SANTA CRUZ BIOTECHNOLOGY, INC.

Mucin 13 (G-10): sc-390115

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mucins are epithelial glycoproteins with a high content of clustered oligosaccharides that are O-glycoside linked to tandem repeat peptides rich in threonine, serine and proline. Mucin 13 (MUC13), also designated down-regulated in colon cancer 1 (DRCC1), is an epithelial and hemopoietic type I membrane protein that undergoes secretion and influences gastrointestinal mucosa levels. It is most abundant in epithelial tissues of the gastrointestinal and respiratory tracts, such as large intestine and trachea, followed by kidney, small intestine, appendix and stomach. Mucin 13 is a good differentiation marker for gastrointestinal mucosa and may also indicate certain gastric tumors. It localizes to the apical membrane of both columnar and goblet cells in the gastrointestinal tract, and within goblet cell thecae. Mucin 13 is a cleaved protein, and the β subunit, containing the cytoplasmic tail, can homodimerize.

REFERENCES

1. Williams, S.J., et al. 2001. MUC13, a novel human cell surface Mucin expressed by epithelial and hemopoietic cells. J. Biol. Chem. 276: 18327-18336.
2. Corrales, R.M., et al. 2003. Normal human conjunctival epithelium expresses MUC13, MUC15, MUC16 and MUC17 Mucin genes. Arch. Soc. Esp. Oftalmol. 78: 375-381.
3. Carraway, K.L., et al. 2003. Cell signaling through membrane Mucins. Bioessays 25: 66-71.
4. Packer, L.M., et al. 2004. Expression of the cell surface Mucin gene family in adenocarcinomas. Int. J. Oncol. 25: 1119-1126.
5. Byrd, J.C., et al. 2004. Mucins and Mucin binding proteins in colorectal cancer. Cancer Metastasis Rev. 23: 77-99.

CHROMOSOMAL LOCATION

Genetic locus: MUC13 (human) mapping to 3q21.2; Muc13 (mouse) mapping to 16 B3.

SOURCE

Mucin 13 (G-10) is a mouse monoclonal antibody raised against amino acids 231-480 mapping within an extracellular domain of Mucin 13 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mucin 13 (G-10) is available conjugated to agarose (sc-390115 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390115 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390115 PE), fluorescein (sc-390115 FITC), Alexa Fluor® 488 (sc-390115 AF488), Alexa Fluor® 546 (sc-390115 AF546), Alexa Fluor® 594 (sc-390115 AF594) or Alexa Fluor® 647 (sc-390115 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390115 AF680) or Alexa Fluor® 790 (sc-390115 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

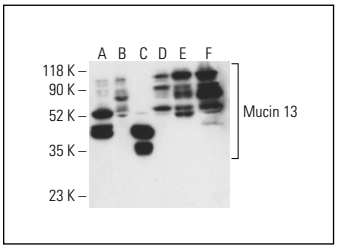
Mucin 13 (G-10) is recommended for detection of Mucin 13 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 Mucin 13 siRNA (h): sc-45690, Mucin 13 siRNA (m): sc-45691, Mucin 13 shRNA Plasmid (h): sc-45690-SH, Mucin 13 shRNA Plasmid (m): sc-45691-SH, Mucin 13 shRNA (h) Lentiviral Particles: sc-45690-V and Mucin 13 shRNA (m) Lentiviral Particles: sc-45691-V.

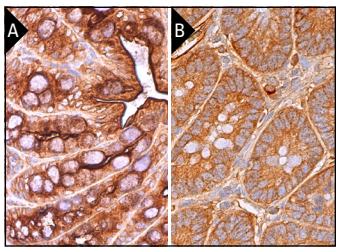
Molecular Weight of Mucin 13: 58 kDa.

Positive Controls: HCT-8 cell lysate: sc-24675, COLO 205 whole cell lysate: sc-364177 or Caco-2 cell lysate: sc-2262.

DATA



Mucin 13 (G-10) HRP: sc-390115 HRP. Direct western blot analysis of Mucin 13 expression in COLO 205 (**A**), KNRK (**B**), HCT-8 (**C**), TK-1 (**D**), Caco-2 (**E**) and NIH/3T3 (**F**) whole cell lysates.



Mucin 13 (G-10): sc-390115. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse colon tissue showing cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat small intestine tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Guo, X.K., et al. 2023. Interactions between host and intestinal crypt-resided biofilms are controlled by epithelial fucosylation. Cell Rep. 42: 112754.
2. Rivet-Noor, C.R., et al. 2024. Stress-induced mucin 13 reductions drive intestinal microbiome shifts and despair behaviors. Brain Behav. Immun. 119: 665-680.

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.

PROTOCOLS

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