SANTA CRUZ BIOTECHNOLOGY, INC.

Mucin 16 (C-6): sc-365002

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mucins are a family of highly glycosylated, secreted proteins with a basic structure consisting of a variable number of tandem repeats (VNTRs). Membrane-associated and secretory mucins are high molecular weight glycoproteins of the glycocalyx (polysaccharide biofilm) that protects mucosal epithelium from particulate matter and microorganisms. Epithelial mucins are large, secreted and cell surface glycoproteins crucial for adhesion modulation, signaling and epithelial cell protection. The number of repeats is highly polymorphic and varies among different alleles. The Mucin family consists of Mucins 1-4, Mucin 5 (AC and B), Mucins 6-8, Mucins 11-13 and Mucins 15-17. The Mucin 16 protein (also commonly referred to as CA125), encoded for by the gene MUC16, is a very high molecular weight tumor antigen consisting of three domains: a carboxy terminal domain, an extracellular domain and an amino terminal domain. Mucin 16, an ovarian cancer-associated antigen, is used as a marker to monitor the progress of epithelial ovarian cancer. It is a hydrophilic membrane-associated protein that may be involved in vitamin A functions.

CHROMOSOMAL LOCATION

Genetic locus: MUC16 (human) mapping to 19p13.2.

SOURCE

Mucin 16 (C-6) is a mouse monoclonal antibody raised against amino acids 6419-6568 mapping near the C-terminus of Mucin 16 of human origin.

PRODUCT

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

Mucin 16 (C-6) is available conjugated to agarose (sc-365002 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365002 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365002 PE), fluorescein (sc-365002 FITC), Alexa Fluor® 488 (sc-365002 AF488), Alexa Fluor® 546 (sc-365002 AF546), Alexa Fluor® 594 (sc-365002 AF594) or Alexa Fluor® 647 (sc-365002 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365002 AF680) or Alexa Fluor® 790 (sc-365002 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Mucin 16 (C-6) is recommended for detection of Mucin 16 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Mucin 16 siRNA (h): sc-44971, Mucin 16 shRNA Plasmid (h): sc-44971-SH and Mucin 16 shRNA (h) Lentiviral Particles: sc-44971-V.

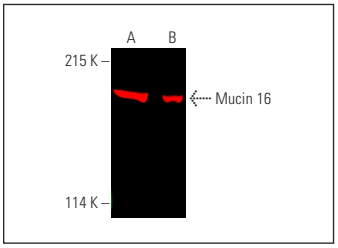
Molecular Weight of Mucin 16: 200-2000 kDa.

Positive Controls: MES-SA/Dx5 cell lysate: sc-2284, MDA-MB-468 cell lysate: sc-2282 or HeLa whole cell lysate: sc-2200.

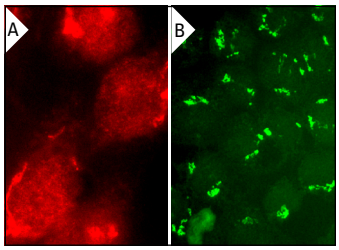
STORAGE

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

DATA



Mucin 16 (C-6): sc-365002. Near-infrared western blot analysis of Mucin 16 expression in MES-SA/Dx5 (**A**) and HeLa (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



Mucin 16 (C-6): sc-365002. Immunofluorescence staining of methanol-fixed HeLa cells showing cell surface localization (**A**). Immunofluorescence staining of formalin-fixed A-431 cells showing Golgi apparatus localization (**B**).

SELECT PRODUCT CITATIONS

1. Shirai, K., et al. 2014. Effects of the loss of conjunctival Muc16 on corneal epithelium and stroma in mice. Invest. Ophthalmol. Vis. Sci. 55: 3626-3637.
2. Gu, Z., et al. 2018. Postprandial increase in serum CA125 as a surrogate biomarker for early diagnosis of ovarian cancer. J. Transl. Med. 16: 114.
3. Campos, R.K., et al. 2020. Ribosomal stalk proteins RPLP1 and RPLP2 promote biogenesis of flaviviral and cellular multi-pass transmembrane proteins. Nucleic Acids Res. 48: 9872-9885.
4. Wang, Q., et al. 2021. Efficient iron utilization compensates for loss of extracellular matrix of ovarian cancer spheroids. Free Radic. Biol. Med. 164: 369-380.
5. Ballester, B., et al. 2021. MUC16 is overexpressed in idiopathic pulmonary fibrosis and induces fibrotic responses mediated by transforming growth factor-β1 canonical pathway. Int. J. Mol. Sci. 22: 6502.
6. Liu, Z., et al. 2022. Mucin 16 promotes colorectal cancer development and progression through activation of Janus kinase 2. Dig. Dis. Sci. 67: 2195-2208.
7. Sun, Y.C., et al. 2022. Transmembrane Mucin 1 blocks fluorescein ingress to corneal epithelium. Invest. Ophthalmol. Vis. Sci. 63: 31.
8. Shen, S., et al. 2023. Effects of lysate/tissue storage at -80°C on subsequently extracted EVs of epithelial ovarian cancer tissue origins. iScience 26: 106521.
9. Guo, J., et al. 2024. Mesothelin-based CAR-T cells exhibit potent antitumor activity against ovarian cancer. J. Transl. Med. 22: 367.

RESEARCH USE

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