SANTA CRUZ BIOTECHNOLOGY, INC.

Mucin 1 (SM3): sc-53381

BACKGROUND

The mucins are a family of highly glycosylated, secreted proteins with a basic structure consisting of a variable number of tandem repeats (VNTRs) encoded by 60 base pairs (Mucin 1), 69 base pairs (Mucin 2) and 51 base pairs (Mucin 3). The number of repeats is highly polymorphic and varies among different alleles. Mucin 1 proteins are expressed as type I membrane proteins in addition to secreted forms. Mucin 1 is aberrantly expressed in epithelial tumors including breast carcinomas. Mucin 2 coats the epithelia of the intestines and airways and is associated with colonic tumors. Mucin 3 is a major component of various mucus gels and is broadly expressed in normal and tumor cells.

CHROMOSOMAL LOCATION

Genetic locus: MUC1 (human) mapping to 1q22; Muc1 (mouse) mapping to 3 F1.

SOURCE

Mucin 1 (SM3) is a mouse monoclonal antibody raised against hydrogen fluoride deglycosylated milk mucin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mucin 1 (SM3) is available conjugated to agarose (sc-53381 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53381 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53381 PE), fluorescein (sc-53381 FITC), Alexa Fluor® 488 (sc-53381 AF488), Alexa Fluor® 546 (sc-53381 AF546), Alexa Fluor® 594 (sc-53381 AF594) or Alexa Fluor® 647 (sc-53381 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53381 AF680) or Alexa Fluor® 790 (sc-53381 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Mucin 1 (SM3) is recommended for detection of Mucin 1 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Mucin 1 siRNA (h): sc-35985, Mucin 1 siRNA (m): sc-37266, Mucin 1 shRNA Plasmid (h): sc-35985-SH, Mucin 1 shRNA Plasmid (m): sc-37266-SH, Mucin 1 shRNA (h) Lentiviral Particles: sc-35985-V and Mucin 1 shRNA (m) Lentiviral Particles: sc-37266-V.

Molecular Weight of Mucin 1: 200 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, BT-20 cell lysate: sc-2223 or SW480 cell lysate: sc-2219.

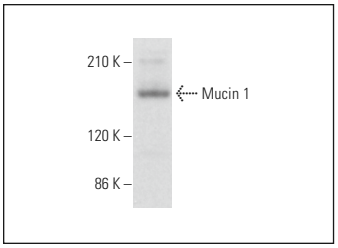
STORAGE

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

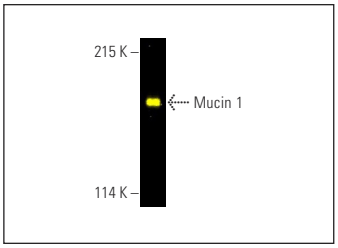
RESEARCH USE

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

DATA



Mucin 1 (SM3): sc-53381. Western blot analysis of Mucin 1 expression in MCF7 whole cell lysate. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



Mucin 1 (SM3) Alexa Fluor® 488: sc-53381 AF488. Direct fluorescent western blot analysis of Mucin 1 expression in BT-20 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Matsushita, T., et al. 2014. A straightforward protocol for the preparation of high performance microarray displaying synthetic MUC1 glycopeptides. Biochim. Biophys. Acta 1840: 1105-1116.
2. Karakoç, Z., et al. 2016. Mucin profiles of the abomasum in bulls and rams: a comparative study. Microsc. Res. Tech. 79: 856-868.
3. Özbek, M., et al. 2018. Prenatal development and histochemical characteristics of gastrointestinal mucins in sheep fetuses. Microsc. Res. Tech. 81: 630-648.
4. Guillen-Poza, P.A., et al. 2020. Amplified detection of breast cancer autoantibodies using MUC1-based Tn antigen mimics. J. Med. Chem. 63: 8524-8533.
5. Karakoç, Z., et al. 2021. Composition of abomasal mucins in hair goats. Biotech. Histochem. 96: 384-393.
6. Guerrero-Ochoa, P., et al. 2022. Preclinical studies of granulysin-based anti-MUC1-Tn immunotoxins as a new antitumoral treatment. Biomedicines 10: 1223.
7. Erbas, E. and Gedikli, S. 2022. Investigation of the endometrial receptivity status in experimental hypothyroid-induced female rats. Iran. J. Basic Med. Sci. 25: 1077-1083.
8. Ismail, N.H., et al. 2023. Modulation of vulvovaginal atrophy (VVA) by Gelam honey in bilateral oophorectomized rats. Front. Endocrinol. 14: 1031066.
9. Erbas, E., et al. 2024. Assessment of toxicological effects of favipiravir (T-705) on the lung tissue of rats: an experimental study. J. Biochem. Mol. Toxicol. 38: e23536.

PROTOCOLS

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

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