

Mucin 1 (O.N.272): sc-71615

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.

REFERENCES

1. Siddiqui, J., et al. 1988. Isolation and sequencing of a cDNA coding for the human DF3 breast carcinoma-associated antigen. *Proc. Natl. Acad. Sci. USA* 85: 2320-2323.
2. Lan, M.S., et al. 1990. Cloning and sequencing of a human pancreatic tumor mucin cDNA. *J. Biol. Chem.* 265: 15294-15299.
3. Gum, J.R., Jr., et al. 1992. The human MUC2 intestinal mucin has cysteine-rich subdomains located both upstream and downstream of its central repetitive region. *J. Biol. Chem.* 267: 21375-21383.

CHROMOSOMAL LOCATION

Genetic locus: MUC1 (human) mapping to 1q22.

SOURCE

Mucin 1 (O.N.272) is a mouse monoclonal antibody raised against a synthetic 60-mer Mucin 1 triple tandem repeat peptide with N-acetyl-galactosamine (GalNAc) O-linked to the threonine in the PDTR region of each repeat (3M GalNAc).

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Mucin 1 (O.N.272) is recommended for detection of glycosylated PDTR motif of the Mucin 1 tandem repeat of 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); not recommended for detection of non-glycosylated Mucin 1.

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

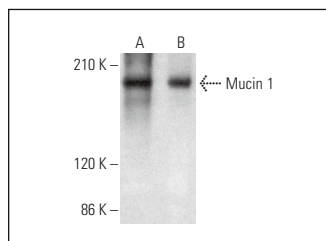
Molecular Weight of Mucin 1: 200 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, SCC-4 whole cell lysate: sc-364363 or BT-20 cell lysate: sc-2223.

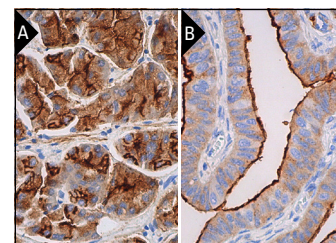
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Mucin 1 (O.N.272): sc-71615. Western blot analysis of Mucin 1 expression in MCF7 (A) and SCC-4 (B) whole cell lysates.



Mucin 1 (O.N.272): sc-71615. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing membrane and cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing apical membrane and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Ricci, F., et al. 2012. Ovarian carcinoma tumor-initiating cells have a mesenchymal phenotype. *Cell Cycle* 11: 1966-1976.
2. Haider, S., et al. 2019. Estrogen signaling drives ciliogenesis in human endometrial organoids. *Endocrinology* 160: 2282-2297.
3. Yuan, F., et al. 2019. Gastrodin ameliorates acute rejection via IRE1α/ TRAF2/NFκB in rats receiving liver allografts. *Biomed Res. Int.* 2019: 9276831.

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.



See **Mucin 1 (VU4H5): sc-7313** for Mucin 1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.