## SANTA CRUZ BIOTECHNOLOGY, INC.

# Mucin 3 (M-18): sc-241569



## 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 com-ponent of various mucus gels and is broadly expressed in normal and tumor cells.

## REFERENCES

- 1. Siddigui, J., Abe, M., Hayes, D., Shani, E., Yunis, E. and Kufe, D.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., Batra, S.K., Qi, W.N., Metzgar, R.S. and Hollingsworth, M.A. 1990. Cloning and sequencing of a human pancreatic tumor mucin cDNA. J. Biol. Chem. 265: 15294-15299.
- 3. Gum, J.R., Hicks, J.W., Swallow, D.M., Lagace, R.L., Byrd, J.C., Lamport, D.T., Siddiki, B. and Kim, Y.S. 1990. Molecular cloning of cDNAs derived from a novel human intestinal mucin gene. Biochem. Biophys. Res. Comm. 171: 407-415.
- 4. Gum, J.R., Jr, Hicks, J.W., Toribara, N.W., Rothe, E.M., Lagace, R.E. and Kim, Y.S. 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.
- 5. Pandey, P., Kharbanda, S. and Kufe, D. 1995. Association of the DF3/MUC1 breast cancer antigen with GRB2 and the Sos/Ras exchange protein. Cancer Res. 55: 4000-4003.
- 6. Geng, H., Zhang, G.M., Li, D., Zhang, H., Yuan, Y., Zhu, H.G., Xiao, H., Han, L.F. and Feng, Z.H. 2006. Soluble form of T cell Ig Mucin 3 is an inhibitory molecule in T cell-mediated immune response. J. Immunol. 176: 1411-1420.
- 7. Frisancho-Kiss, S., Nyland, J.F., Davis, S.E., Barrett, M.A., Gatewood, S.J., Njoku, D.B., Cihakova, D., Silbergeld, E.K., Rose, N.R. and Fairweather, D. 2006. Cutting edge: T cell Ig Mucin 3 reduces inflammatory heart disease by increasing CTLA-4 during innate immunity. J. Immunol. 176: 6411-6415.
- 8. Louis, N.A., Hamilton, K.E., Canny, G., Shekels, L.L., Ho, S.B. and Colgan, S.P. 2006. Selective induction of Mucin 3 by hypoxia in intestinal epithelia. J. Cell. Biochem. 99: 1616-1627.
- 9. Cao, E., Zang, X., Ramagopal, U.A., Mukhopadhaya, A., Fedorov, A., Fedorov, E., Zencheck, W.D., Lary, J.W., Cole, J.L., Deng, H., Xiao, H., Dilorenzo, T.P., Allison, J.P., Nathenson, S.G. and Almo, S.C. 2007. T cell immunoglob-ulin Mucin 3 crystal structure reveals a galectin-9-independent ligand-binding surface. Immunity 26: 311-321.

## **STORAGE**

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

#### CHROMOSOMAL LOCATION

Genetic locus: Muc3 (mouse) mapping to 5 G2.

#### SOURCE

Mucin 3 (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Mucin 3 of mouse origin.

#### PRODUCT

Each vial contains 200 µg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-241569 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## **APPLICATIONS**

Mucin 3 (M-18) is recommended for detection of Mucin 3 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other Mucin family members.

Suitable for use as control antibody for Mucin 3 siRNA (m): sc-149703, Mucin 3 shRNA Plasmid (m): sc-149703-SH and Mucin 3 shRNA (m) Lentiviral Particles: sc-149703-V.

Molecular Weight of Mucin 3: 1100 kDa.

#### **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## **RESEARCH USE**

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

#### **PROTOCOLS**

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