# Mucin 3 (3H2744): sc-71618



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) 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**

- Siddiqui, 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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 lg Mucin 3 reduces inflammatory heart disease by increasing CTLA-4 during innate immunity. J. Immunol. 176: 6411-6415.
- 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.
- 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 immunoglobulin Mucin 3 crystal structure reveals a galectin-9-independent ligand-binding surface. Immunity 26: 311-321.

### CHROMOSOMAL LOCATION

Genetic locus: MUC3A (human) mapping to 7g22.

#### **SOURCE**

Mucin 3 (3H2744) is a mouse monoclonal antibody raised against Mucin 3 tandem repeat human peptide.

#### **PRODUCT**

Each vial contains 100  $\mu g \; lg G_{2a}$  in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

#### **APPLICATIONS**

Mucin 3 (3H2744) is recommended for detection of Mucin 3 expressed by normal and malignant colon tissues of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Mucin 1 or 2.

Suitable for use as control antibody for Mucin 3A siRNA (h): sc-43162, Mucin 3A shRNA Plasmid (h): sc-43162-SH and Mucin 3A shRNA (h) Lentiviral Particles: sc-43162-V.

Molecular Weight of Mucin 3: 1100 kDa.

#### **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.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com