

# Mucin 16 (X325): sc-52096

## 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.

## REFERENCES

1. Yin, B.W., et al. 2001. Molecular cloning of the CA125 ovarian cancer antigen: identification as a new mucin, MUC16. *J. Biol. Chem.* 276: 27371-27375.
2. Maeda, T., et al. 2004. Solution structure of the SEA domain from the murine homologue of ovarian cancer antigen CA125 (MUC16). *J. Biol. Chem.* 279: 13174-13182.
3. Hori, Y., et al. 2005. Effect of retinoic acid on gene expression in human conjunctival epithelium: secretory phospholipase A2 mediates retinoic acid induction of Mucin 16. *Invest. Ophthalmol. Vis. Sci.* 46: 4050-4061.
4. Palmi-Pallag, T., et al. 2005. The role of the SEA (sea urchin sperm protein, enterokinase and agrin) module in cleavage of membrane-tethered mucins. *FEBS J.* 272: 2901-2911.
5. Modrak, D.E., et al. 2005. Identification of a Mu-9 (anti-colon-specific antigen-p)-reactive peptide having homology to CA125 (Mucin 16). *Int. J. Oncol.* 26: 1591-1596.
6. McLemore, M.R., et al. 2005. Introducing the MUC16 gene: implications for prevention and early detection in epithelial ovarian cancer. *Biol. Res. Nurs.* 6: 262-267.

## CHROMOSOMAL LOCATION

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

## SOURCE

Mucin 16 (X325) is a mouse monoclonal antibody raised against full length Mucin 16 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Mucin 16 (X325) is recommended for detection of epitope specificity group B of Mucin 16 of human 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), immunohistochemistry (including paraffin-embedded sections) (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: HeLa whole cell lysate: sc-2200.

## SELECT PRODUCT CITATIONS

1. Bae, C.H., et al. 2011. AMPK induces MUC5B expression via p38 MAPK in NCI-H292 airway epithelial cells. *Biochem. Biophys. Res. Commun.* 409: 669-674.
2. Finkbeiner, W.E., et al. 2011. Cystic fibrosis and the relationship between mucin and chloride secretion by cultures of human airway gland mucous cells. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 301: L402-L414.

## 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](http://www.scbt.com) for detailed protocols and support products.