Mucin 3A/B (F-13): sc-131980

SANTA CRUZ
BIOTECHNOLOGY

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 3A and Mucin 3B). 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 3A and Mucin 3B are major components of various mucus gels and, while Mucin 3A is broadly expressed in normal and tumor cells, Mucin 3B is predominantly expressed in adult and fetal small intestine and colon.

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. 1990. Molecular cloning of cDNAs derived from a novel human intestinal Mucin gene. Biochem. Biophys. Res. Commun. 171: 407-415.

4. Gum, J.R. Jr., et al. 1992. The human Mucin 2 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., et al. 1995. Association of the DF3/Mucin 1 breast cancer antigen with Grb2 and the Sos/Ras exchange protein. Cancer Res. 55: 4000-4003.

6. Geng, H., et al. 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., et al. 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., et al. 2006. Selective induction of Mucin 3 by hypoxia in intestinal epithelia. J. Cell. Biochem. 99: 1616-1627.

9. Cao, E., et al. 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 7q22, MUC3B (human) mapping to 7q22.1.

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.

SOURCE

Mucin 3A/B (F-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Mucin 3B of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-131980 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Mucin 3A/B (F-13) is recommended for detection of Mucin 3A and Mucin 3B 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Mucin 3A: 266 kDa.

Molecular Weight of Mucin 3B: 96 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™ 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.

PROTOCOLS

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