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# Mucin 2 (Ccp58): sc-7314

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: MUC2 (human) mapping to 11p15.5; Muc2 (mouse) mapping to 7 F5.

## SOURCE

Mucin 2 (Ccp58) is a mouse monoclonal antibody raised against a synthetic peptide encoding 5 tandem repeats of MUC2 apomucin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mucin 2 (Ccp58) is available conjugated to either Alexa Fluor<sup>®</sup> 488 (sc-7314 AF488), Alexa Fluor<sup>®</sup> 546 (sc-7314 AF546) or Alexa Fluor<sup>®</sup> 594 (sc-7314 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-7314 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-7314 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

Mucin 2 (Ccp58) is recommended for detection of Mucin 2 of mouse, rat and human origin by 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).

Suitable for use as control antibody for Mucin 2 siRNA (h): sc-43160, Mucin 2 siRNA (m): sc-155920, Mucin 2 shRNA Plasmid (h): sc-43160-SH, Mucin 2 shRNA Plasmid (m): sc-155920-SH, Mucin 2 shRNA (h) Lentiviral Particles: sc-43160-V and Mucin 2 shRNA (m) Lentiviral Particles: sc-155920-V.

Molecular Weight of Mucin 2 monomer: 300 kDa.

Molecular Weight of Mucin 2 dimer: 600 kDa.

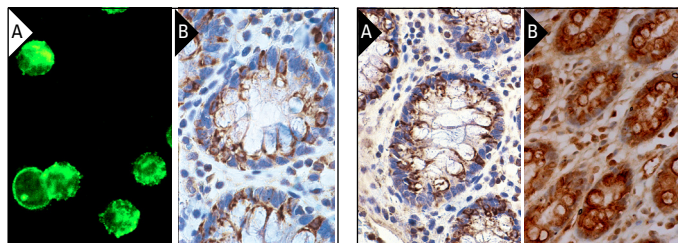
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## STORAGE

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

## DATA



Mucin 2 (Ccp58): sc-7314. Immunofluorescence staining of methanol-fixed SW480 cells showing cytoplasmic and cell surface localization (A). Immunohistochemistry staining of formalin-fixed, paraffin-embedded normal human colon tissue showing staining of secreted Mucin 2 (B).

Mucin 2 (Ccp58): sc-7314. Immunohistochemistry staining of formalin-fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Cornberg, M., et al. 1999. Variation of human mucin gene expression in gastric cancer cell lines and gastric mucous cell primary cultures. *Eur. J. Cell Biol.* 78: 832-841.
- Walsh, M.D., et al. 2013. Lynch syndrome-associated breast cancers do not overexpress chromosome 11-encoded mucins. *Mod. Pathol.* 26: 944-954.
- Murakami, S., et al. 2014. Establishment of a novel cell line from intraductal papillary neoplasm of the bile duct. *Anticancer Res.* 34: 2203-2209.
- Suzuki, H., et al. 2015. Characterization of a new small bowel adenocarcinoma cell line and screening of anti-cancer drug against small bowel adenocarcinoma. *Am. J. Pathol.* 185: 550-562.
- Uchida, H., et al. 2017. A xenogeneic-free system generating functional human gut organoids from pluripotent stem cells. *JCI Insight* 2: e86492.
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- Ma, S., et al. 2020. Dairy propionibacterium freudenreichii ameliorates acute colitis by stimulating MUC2 expression in intestinal goblet cell in a DSS-induced colitis rat model. *Sci. Rep.* 10: 5523.
- Katsukura, N., et al. 2021. Intestinal phenotype is maintained by Atoh1 in the cancer region of intraductal papillary mucinous neoplasm. *Cancer Sci.* 112: 932-944.

## RESEARCH USE

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