

Mucin 4 (8G7): sc-53945

BACKGROUND

Mucins are a group of high molecular weight glycoproteins consisting of a mucin core protein and O-linked carbohydrates. Mucin 4, a membrane-bound mucin, is the human homolog of the rat sialomucin complex (SMC). Mucin 4 protein consists of Mucin 4 α , a large amino mucin type subunit and Mucin 4 β , a transmembrane subunit containing three EGF-like domains. The Mucin 4 gene is the predominant mucin gene expressed in the normal urothelium and is also expressed in several normal tissues such as trachea, lung and testis. Dysregulation of Mucin 4 results in high levels of expression in pancreatic tumors and tumor cell lines. Induction of Mucin 4 in pancreatic carcinoma by all-*trans*-retinoic acid is mediated through the retinoic acid receptor- α signaling pathway. TGF β 2 serves as an interim mediator of this regulated expression. Alternative splicing in the 3'-end of the Mucin 4 gene generates at least 12 splice variants, which are characterized as 2 distinct types, a secreted type and a membrane-associated type. Mucin 4 protein acts as a heterodimeric bifunctional cell-surface glycoprotein and forms thick mucous effusion in the diseased middle ear.

CHROMOSOMAL LOCATION

Genetic locus: MUC4 (human) mapping to 3q29.

SOURCE

Mucin 4 (8G7) is a mouse monoclonal antibody raised against a synthetic peptide (STGDTPLPVTDTSSV) directed against the Mucin 4 tandem repeats of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Mucin 4 (8G7) is recommended for detection of Mucin 4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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 4 siRNA (h): sc-43163, Mucin 4 shRNA Plasmid (h): sc-43163-SH and Mucin 4 shRNA (h) Lentiviral Particles: sc-43163-V.

Molecular Weight of glycosylated Mucin 4: 980 kDa.

Molecular Weight of Mucin 4 α : 850 kDa.

Molecular Weight of Mucin 4 β : 80 kDa.

Positive controls: PANC-1 whole cell lysate: sc-364380, MCF7 whole cell lysate: sc-2206 or HUV-EC-C whole cell lysate: sc-364180.

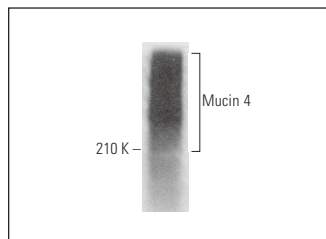
STORAGE

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

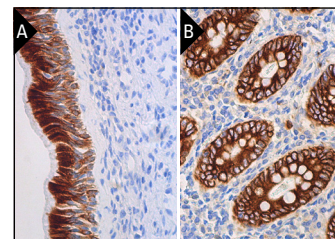
RESEARCH USE

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

DATA



Mucin 4 (8G7): sc-53945. Western blot analysis of Mucin 4 expression in SCC-4 whole cell lysate.



Mucin 4 (8G7): sc-53945. Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic staining of respiratory epithelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing membrane and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Chaturvedi, P., et al. 2008. MUC4 Mucin interacts with and stabilizes the HER2 oncoprotein in human pancreatic cancer cells. *Cancer Res.* 68: 2065-2070.
- Kurisasi-Arakawa, A., et al. 2014. Deeply located low-grade fibromyxoid sarcoma with FUS-CREB3L2 gene fusion in a 5-year-old boy with review of literature. *Diagn. Pathol.* 9: 163.
- Righi, A., et al. 2015. Sclerosing epithelioid fibrosarcoma of the thigh: report of 2 cases with synchronous bone metastases. *Virchows Arch.* 467: 339-344.
- Pivovarcikova, K., et al. 2016. "Mucin"-secreting papillary renal cell carcinoma: clinicopathological, immunohistochemical, and molecular genetic analysis of seven cases. *Virchows Arch.* 469: 71-80.
- Taniguchi, T., et al. 2017. N-glycosylation affects the stability and barrier function of the MUC16 mucin. *J. Biol. Chem.* 292: 11079-11090.
- Jiang, Y., et al. 2018. Correlation of Tn antigen expression with mucins in Chinese patients with colorectal cancer. *Int. J. Clin. Exp. Pathol.* 11: 1562-1568.
- Oh, K.S. and Mahalingam, M. 2019. Immunohistochemistry as a genetic surrogate in dermatopathology: pearls and pitfalls. *Adv. Anat. Pathol.* 26: 390-420.
- Bannecková, M., et al. 2020. Immunohistochemical and genetic analysis of respiratory epithelial adenomatoid hamartomas and seromucinous hamartomas: are they precursor lesions to sinonasal low-grade tubulopapillary adenocarcinomas? *Hum. Pathol.* 97: 94-102.



See **Mucin 4 (1G8): sc-33654** for Mucin 4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.