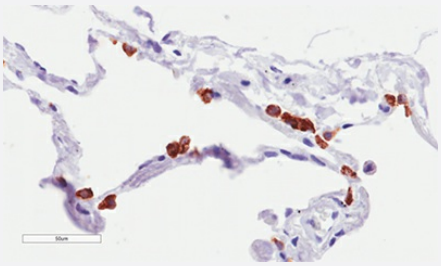
RecomAb™

MUC1 monoclonal antibody, clone SM3

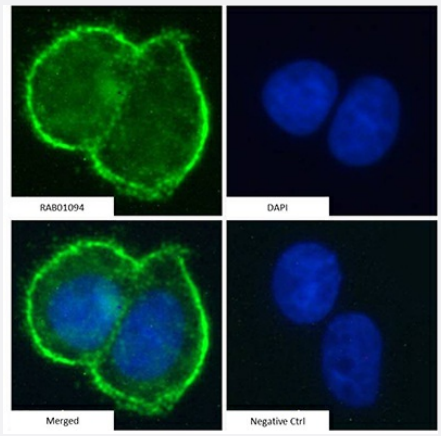
Catalog # RAB01094 Size 200 ug

Applications



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections)

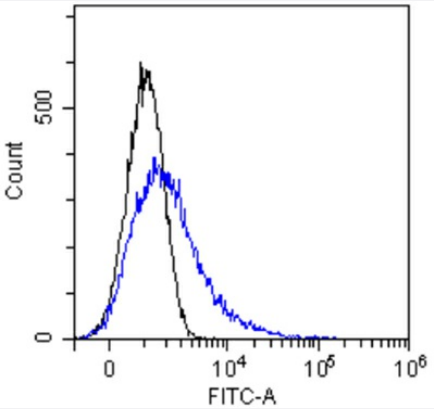
Immunohistochemical staining of human lung tissue using MUC1 monoclonal antibody, clone SM3 (Cat # RAB01094).
Immunohistochemical staining of paraffin embedded human lung tissue using the rabbit-chimeric antibody (Cat # RAB01094). Antigen retreival was acheived by microwaving in citrate buffer (pH 6), followed by blocking with protein block serum-free buffer. Primary antibody incubation with Cat # RAB01094 was carried out at 4 ug/mL for 30 minutes. Samples were then incubated with an anti-rabbit IgG HRP secondary antibody for 20 mins followed by DAB, and counter-staining with haemotoxylin. Staining of type II pneumocytes may be observed. Recommended concentration, 2-4 ug/mL.



Immunofluorescence

Immunofluorescence staining of fixed MCF-7 cells with MUC1 monoclonal antibody, clone SM3 (Cat # RAB01094).
Immunofluorescence analysis of unpermeabilisd paraformaldehyde fixed MCF-7 cells on coverslips stained with the chimeric rabbit antibody (Cat # RAB01094) at 10 ug/mL for 1h followed by Alexa Fluor®488 secondary antibody (1 ug/mL), showing clear membrane staining. The nuclear stain is DAPI (blue). Panels show from left-right, top-bottom; Cat # RAB01094, DAPI, merged channels and an isotype control. The isotype control was stained with unimmunised rabbit IgG followed by Alexa Fluor®488 secondary antibody.

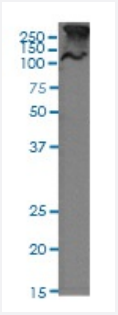
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Flow Cytometry

Flow-cytometry using MUC1 monoclonal antibody, clone SM3 (Cat # RAB01094).
MCF-7 cells were stained with unimmunized rabbit IgG antibody (black line) or the rabbit-chimeric antibody (Cat # RAB01094, blue line) at a concentration of 10 ug/mL for 30 mins at RT. After washing, bound antibody was detected using anti-rabbit IgG JK (FITC-conjugate) antibody at 2 ug/mL and cells analyzed on a FACSCanto flow-cytometer.

Western Blot (Cell lysate)



Western blot analysis of MUC1 monoclonal antibody, clone SM3 (Cat # RAB01094).
MCF-7 cell lysate (35 ug protein in RIPA buffer) were resolved on a 10% SDS PAGE gel and blots probed with the chimeric rabbit antibody (Cat # RAB01094) at 1 ug/mL before detection using an anti-rabbit secondary antibody. A primary incubation of 1h was used and protein was detected by chemiluminescence. The predicted band size for unmodified MUC1 is 122.1kDa, though in breast cancer cell lines like MCF-7 MUC1 can be up to 90% glycosylated (c.f. Mueller et al. PMID: 10373415; T47D cells) and expected band sizes are ~250-300kDa. Thus the two bands likely represent processed (>250kDa) and unprocessed (~121kDa) populations of the protein. Cat # RAB01094 successfully detected human MUC1 in MCF-7 breast cancer cells.

Specification

Product Description	Rabbit recombinant monoclonal antibody raised against human MUC1.
Antibody Species	Rabbit
Immunogen	Originate antibody is raised against hydrogen fluoride deglycosylated milk mucin.
Reactivity	Human
Specificity	This antibody reacts to human MUC1.
Form	Liquid
Preparation Method	Mammalian cell (HEK293) expression system
Purification	Protein A affinity purified
Isotype	Rabbit IgG, lambda

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Recommend Usage	Flow Cytometry Immunofluorescence Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) Western Blot The optimal working dilution should be determined by the end user.
Storage Buffer	In PBS (0.02% Proclin 300)
Storage Instruction	Store at 4°C. For long term storage store at -20°C. Aliquot to avoid repeated freezing and thawing.

Applications

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Gene Info — MUC1

Entrez GeneID	4582
Protein Accession#	P15941
Gene Name	MUC1
Gene Alias	CD227, EMA, H23AG, MAM6, PEM, PEMT, PUM
Gene Description	mucin 1, cell surface associated
Omim ID	158340
Gene Ontology	Hyperlink
Gene Summary	This gene is a member of the mucin family and encodes a membrane bound, glycosylated phosp hoprotein. The protein is anchored to the apical surface of many epithelia by a transmembrane do main, with the degree of glycosylation varying with cell type. It also includes a 20 aa variable numb er tandem repeat (VNTR) domain, with the number of repeats varying from 20 to 120 in different i ndividuals. The protein serves a protective function by binding to pathogens and also functions in a cell signaling capacity. Overexpression, aberrant intracellular localization, and changes in glyco sylation of this protein have been associated with carcinomas. Multiple alternatively spliced transc ript variants that encode different isoforms of this gene have been reported, but the full-length natu re of only some has been determined. [provided by RefSeq
Other Designations	DF3 antigen|H23 antigen|MUC-1/SEC|MUC-1/X|MUC1/ZD|OTTHUMP00000033787|OTTHUMP 00000033790|OTTHUMP00000033795|breast carcinoma-associated antigen DF3|episialin|muci n 1|mucin 1, transmembrane|peanut-reactive urinary mucin|polymorphic epithelial mucin|tumor as

Disease

- Adenocarcinoma
- Asthma
- Attention Deficit Disorder with Hyperactivity
- Autistic Disorder
- Breast cancer
- Breast Neoplasms
- Bronchiolitis
- Carcinoma

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- Chronic Disease
- Disease Susceptibility
- Gastritis
- Genetic Predisposition to Disease
- Helicobacter Infections
- Infant
- Kidney Failure
- Lung Diseases
- Lung Neoplasms
- Metaplasia
- NARP
- Neoplasms
- Ovarian cancer
- Ovarian Neoplasms
- Prostate cancer
- Prostatic Neoplasms
- Respiratory Syncytial Virus Infections
- Sarcoidosis
- Stomach Neoplasms

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