

PRODUCT INFORMATION

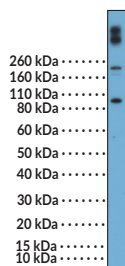
MUC1 Rabbit Monoclonal Antibody (Clone RM489)

Item No. 42843

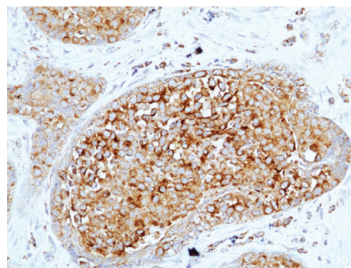
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	BM7, Breast Carcinoma-associated Antigen DF3, CA 15-3, Cancer Antigen 15-3, Mucin 1, PEM, Polymorphic Epithelial Mucin, KL-6
Immunogen:	Peptide corresponding to the cytoplasmic domain of human MUC1
Cross Reactivity:	(+) MUC1
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM489
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:500-1:1,000 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

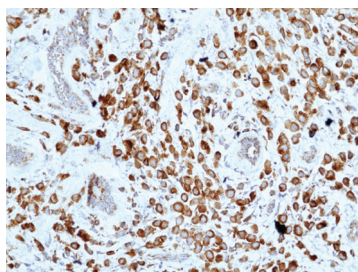
Images



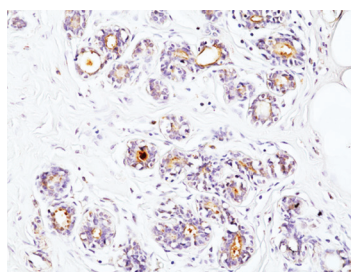
WB of MCF-7 cell lysates using MUC1 Rabbit Monoclonal Antibody (Clone RM489) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast cancer-ductal tissue using MUC1 Rabbit Monoclonal Antibody (Clone RM489) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast cancer-lobular tissue using MUC1 Rabbit Monoclonal Antibody (Clone RM489) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded normal human breast tissue using MUC1 Rabbit Monoclonal Antibody (Clone RM489) at a dilution of 1:1,000.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Mucin 1 (MUC1) is a member of the mucin family.¹ It is expressed as a proprotein that is cleaved into extracellular and transmembrane polypeptides.^{1,2} The extracellular polypeptide is composed of a tandem repeat domain, which contains O- and N-linked glycosylation sites, and is attached non-covalently to the transmembrane polypeptide, which is composed of a juxtamembrane region, a transmembrane domain, and a C-terminal cytoplasmic tail.¹ MUC1 is ubiquitously expressed in tissues, such as stomach peptic cells, organ endothelium and epithelium, and liver bile ducts, and functions as an extracellular barrier, serves as an anchor for intercellular proteins, such as intercellular adhesion molecule-1 (ICAM-1), or associates with other receptors, such as EGFR, to assist in signal transduction.² MUC1 can undergo alternative splicing to produce secreted or intracellular MUC1 isoforms.³ In tumors, MUC1 prevents immune cell recognition and engagement, increases metastatic potential, and is frequently overexpressed in cancers.³ Serum and tumor levels of MUC1 are increased in patients with breast cancer.⁴ Cayman's MUC1 Rabbit Monoclonal Antibody (Clone RM489) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Horm, T.M. and Schroeder, J.A. MUC1 and metastatic cancer: Expression, function and therapeutic targeting. *Cell. Adh. Migr.* **7**(2), 187-198 (2013).
2. Hanisch, F.G. and Müller, S. MUC1: The polymorphic appearance of a human mucin. *Glycobiology* **10**(5), 439-449 (2000).
3. Brockhausen, I. and Melamed, J. Mucins as anti-cancer targets: Perspectives of the glycobiologist. *Glycoconj. J.* **38**(4), 459-474 (2021).
4. Croce, M.V., Isla-Larrain, M.T., Demichelis, S.O., *et al.* Tissue and serum MUC1 mucin detection in breast cancer patients. *Breast Cancer Res. Treat.* **81**(3), 195-207 (2003).

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