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Store at -20C  
#4538

## MUC1 (VU4H5) Mouse mAb

**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IHC-P, IF-IC, FC-FP	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 230, 400	<b>Source/Isotype:</b> Mouse IgG1	<b>UniProt ID:</b> #P15941	<b>Entrez-Gene Id:</b> 4582
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### Product Usage Information

#### Application

Western Blotting  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

#### Dilution

1:1000  
1:50 - 1:100  
1:200 - 1:800  
1:50 - 1:200

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #68123.

### Specificity/Sensitivity

MUC1 (VU4H5) Mouse mAb detects endogenous levels of total MUC1. This antibody does not cross-react with other mucin proteins.

### Source / Purification

Monoclonal antibody (isotype: IgG1k) is produced by immunizing a BALB/c mouse with MUC1 60 mer tandem repeats (BSA conjugated).

### Background

Mucins represent a family of glycoproteins characterized by repeat domains and dense O-glycosylation (1). MUC1 (or mucin 1) is aberrantly overexpressed in most human carcinomas. Increased expression of MUC1 in carcinomas reduces cell-cell and cell-ECM interactions. MUC1 is cleaved proteolytically, and the large ectodomain can remain associated with the small 25 kDa carboxy-terminal domain that contains a transmembrane segment and a 72-residue cytoplasmic tail (1). MUC1 interacts with ErbB family receptors and potentiates ERK1/2 activation (2). MUC1 also interacts with β-catenin, which is regulated by GSK-3β, PKCγ, and Src through phosphorylation at Ser44, Thr41, and Tyr46 of the MUC1 cytoplasmic tail (3-5). Overexpression of MUC1 potentiates transformation (6) and attenuates stress-induced apoptosis through the Akt or p53 pathways (7,8).

### Background References

- Baldus, S.E. et al. (2004) *Crit Rev Clin Lab Sci* 41, 189-231.
- Schroeder, J.A. et al. (2001) *J Biol Chem* 276, 13057-64.
- Li, Y. et al. (1998) *Mol Cell Biol* 18, 7216-24.
- Li, Y. et al. (2001) *J Biol Chem* 276, 6061-4.
- Ren, J. et al. (2002) *J Biol Chem* 277, 17616-22.
- Schroeder, J.A. et al. (2004) *Oncogene* 23, 5739-47.
- Raina, D. et al. (2004) *J Biol Chem* 279, 20607-12.
- Wei, X. et al. (2005) *Cancer Cell* 7, 167-78.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

### Cross-Reactivity Key

**H:** Human

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