

#16564 Store at -20C

## MUC1-C (D5K9I) XP® Rabbit mAb



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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IHC-P, IF-IC	H	Endogenous	25	Rabbit IgG	#P15941	4582

### Product Usage Information

#### Application

Western Blotting  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Immunocytochemistry)

#### Dilution

1:1000  
1:200 - 1:400  
1:400 - 1:800

### 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 #50160.

### Specificity / Sensitivity

MUC1-C (D5K9I) XP® Rabbit mAb recognizes endogenous levels of total MUC1-C protein. This antibody does not detect MUC1-N protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly1192 of human MUC1 protein.

### 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). MUC1-C is the carboxy-terminal transmembrane subunit of MUC1 resulting from proteolytic cleavage of the full length protein. MUC1-N is the amino-terminal subunit, which can be tethered to MUC1-C, or released from the plasma membrane. MUC1-C interacts with receptor tyrosine kinases, β-catenin and other signaling proteins, and is thought to induce activation of MAPK, Akt and Wnt pathways. Due to its signaling functions and expression in human cancer, MUC1-C is a potential therapeutic target (reviewed in 9).

### Background References

1. Baldus, S.E. et al. (2004) *Crit Rev Clin Lab Sci* 41, 189-231.
2. Schroeder, J.A. et al. (2001) *J Biol Chem* 276, 13057-64.
3. Li, Y. et al. (1998) *Mol Cell Biol* 18, 7216-24.
4. Li, Y. et al. (2001) *J Biol Chem* 276, 6061-4.
5. Ren, J. et al. (2002) *J Biol Chem* 277, 17616-22.
6. Schroeder, J.A. et al. (2004) *Oncogene* 23, 5739-47.
7. Raina, D. et al. (2004) *J Biol Chem* 279, 20607-12.
8. Wei, X. et al. (2005) *Cancer Cell* 7, 167-78.
9. Kufe, D.W. (2013) *Oncogene* 32, 1073-81.

### 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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**WB:** Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)  
**IF-IC:** Immunofluorescence (Immunocytochemistry)

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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