Revision 5

#19926 Store at +4C

MUC1 (D9O8K) XP® Rabbit mAb (PE Conjugate)

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP, FC-L	H	Endogenous	Rabbit IgG	#P15941	4582

Product Usage Information

Application	Dilution
Flow Cytometry (Fixed/Permeabilized)	1:50
Flow Cytometry (Live)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity / Sensitivity

MUC1 (D9O8K) XP® Rabbit mAb (PE Conjugate) detects endogenous levels of total MUC1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human MUC1 protein.

Product Description

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated MUC1 (D9O8K) XP® Rabbit mAb #14161.

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

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.

Species Reactivity

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

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized) **FC-L:** Flow Cytometry (Live)

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

Trademarks and Patents

Limited Uses