

DESCRIPTION

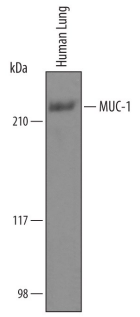
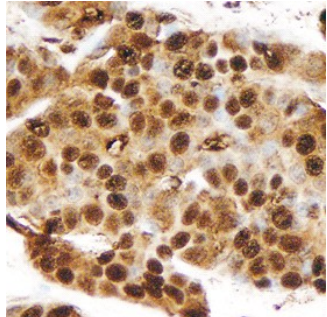
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| Species Reactivity | Human |
| Specificity | Detects human MUC-1 in direct ELISAs and Western blots. |
| Source | Polyclonal Sheep IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | <i>E. coli</i> -derived recombinant human MUC-1 Pro126-Arg145 Accession # P15941 |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

| | Recommended Concentration | Sample |
|-----------------------------|----------------------------------|---------------|
| Western Blot | 1 µg/mL | See Below |
| Immunohistochemistry | 5-15 µg/mL | See Below |

DATA

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| <p>Western Blot</p>  <p>Detection of Human MUC-1 by Western Blot. Western blot shows lysates of human lung tissue. PVDF Membrane was probed with 1 µg/mL of Sheep Anti-Human MUC-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6298) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for MUC-1 at approximately 230 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p> | <p>Immunohistochemistry</p>  <p>MUC-1 in Human Breast. MUC-1 was detected in immersion fixed paraffin-embedded sections of human breast using Sheep Anti-Human MUC-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6298) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei in epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p> |
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PREPARATION AND STORAGE

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| Reconstitution | Reconstitute at 0.2 mg/mL in sterile PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| Stability & Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

BACKGROUND

MUC-1 (Mucin-1; also episialin, MAM-6, PEM and PUM) is a 150-450 kDa type I transmembrane glycoprotein that belongs to the Mucin family of molecules. It forms a protective barrier against microbes on the apical surface of most glandular epithelium, and becomes prominently displayed on tumor cells. Mature human MUC-1 is 1232 amino acids (aa) in length. It contains an 1135 aa extracellular domain (ECD) (aa 24-1158), and a signal transducing 73 aa cytoplasmic tail (aa 1182-1255). The ECD is highly polymorphic as evidenced by a highly variable number of 20 aa O-glycosylated tandem repeats. Intracellular processing cleaves MUC-1 between Gly1097 and Ser1098, generating a noncovalently linked heterodimer that is expressed on the cell surface. The C-terminus is 22-25 kDa in size, while the N-terminus is highly variable (70-400 kDa in size), a function of the number of resident tandem repeats. Cell surface processing by TACE releases a soluble ECD fragment of variable MW. There are multiple splice variants that show massive reductions in the size of the ECD. Over aa 126-145, human MUC-1 shares < 50% aa identity with mouse MUC-1. When compared to human, mouse MUC-1 is found not to be polymorphic and possess poorly conserved tandem repeat sequences.