

#### DESCRIPTION

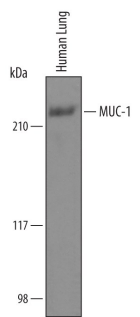
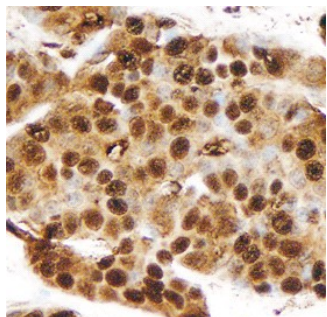
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human MUC-1 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human MUC-16 is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human MUC-1 Pro126-Arg145 Accession # P15941
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied 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
<b>Western Blot</b>	1 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below

#### DATA

<p><b>Western Blot</b></p>  <p><b>Detection of Human MUC-1 by Western Blot.</b> 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><b>Immunohistochemistry</b></p>  <p><b>MUC-1 in Human Breast.</b> 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 &amp; Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei in epithelial cells. View our protocol for <a href="#">Chromogenic IHC Staining of Paraffin-embedded Tissue Sections</a>.</p>
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#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### 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.