**DESCRIPTION**

**Species Reactivity**
Human

**Specificity**
Detects human MUC-1 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) MUC-20, rhMUC-20S, or rhCA125/MUC-16 was observed.

**Source**
Monoclonal Mouse IgG2B Clone # 604804

**Purification**
Protein A or G purified from hybridoma culture supernatant

**Immunogen**
E. coli-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.

*A 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.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Recommended Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Blot</td>
<td>2 μg/mL</td>
</tr>
<tr>
<td>Flow Cytometry</td>
<td>2.5 μg/10^6 cells</td>
</tr>
<tr>
<td>Immunocytochemistry</td>
<td>8-25 μg/mL</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>8-25 μg/mL</td>
</tr>
<tr>
<td>Simple Western</td>
<td>40 μg/mL</td>
</tr>
<tr>
<td>CyTOF-ready</td>
<td>Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.</td>
</tr>
</tbody>
</table>

**DATA**

**Western Blot**

Detection of Human MUC-1 by Western Blot. Western blot shows lysates of human lung tissue. PVDF Membrane was probed with 2 μg/mL of Mouse Anti-Human MUC-1 Monoclonal Antibody (Catalog # MAB6298) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for MUC-1 at approximately 300 kDa (as indicated). This experiment was conducted under non-reducing conditions and using Immunoblot Buffer Group 1.

**Flow Cytometry**

Detection of MUC-1 in MCF-7 Human Cell Line by Flow Cytometry. MCF-7 human breast cancer cell line was stained with Mouse Anti-Human MUC-1 Monoclonal Antibody (Catalog # MAB6298, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG F(ab')2 Secondary Antibody (Catalog # F0101B).

**Immunocytochemistry**

MUC-1 in Capan-1 Human Cell Line. MUC-1 was detected in immersion fixed Capan-1 human pancreatic adenocarcinoma cell line using Mouse Anti-Human MUC-1 Monoclonal Antibody (Catalog # MAB6298) at 10 μg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces and cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

**Immunohistochemistry**

MUC-1 in Human Breast. MUC-1 was detected in immersion fixed paraffin-embedded sections of human breast using Mouse Anti-Human MUC-1 Monoclonal Antibody (Catalog # MAB6298) at 15 μg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CT50013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm of epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.
**Simple Western**

Detection of Human MUC-1 by Simple Western™. Simple Western lane view shows lysates of human lung tissue, loaded at 0.2 mg/mL. Specific bands were detected for MUC-1 at approximately 300-500 kDa (as indicated) using 40 µg/mL of Mouse Anti-Human MUC-1 Monoclonal Antibody (Catalog # MAB6298). This experiment was conducted under reducing conditions and using the 66-440 kDa separation system.

**PREPARATION AND STORAGE**

<table>
<thead>
<tr>
<th>Reconstitution</th>
<th>Sterile PBS to a final concentration of 0.5 mg/mL.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping</td>
<td>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</td>
</tr>
<tr>
<td>Stability &amp; Storage</td>
<td>Use a manual defrost freezer and avoid repeated freeze-thaw cycles. ● 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.</td>
</tr>
</tbody>
</table>

**BACKGROUND**

MUC-1 (Mucin-1; also PEM, PEMT, Episialin, tumor-associated mucin, and carcinoma associated mucin) is a 240-450 kDa type I transmembrane glycoprotein. Human MUC-1 is 1255 amino acids (aa) in length and contains a 23 aa signal sequence, a 1135 aa extracellular domain (ECD), a 23 aa transmembrane segment, and a 74 aa cytoplasmic tail. The ECD consists of degenerate tandem repeats and a tandem repeat region, which makes up the major portion of the protein. Potential O-glycosylation sites (serines and threonines) make up more than one-fourth of the amino acids. Splicing variants produce ten isoforms for human MUC-1. Human MUC-1 is 28% aa identical to mouse MUC-1.