Technical Data Sheet

Purified Mouse Anti-Human MUC1 (CD227)

Product Information
Material Number: 555925
Alternate Name: MUC1; CA 15-3; DF3; EMA; Episialin; H23; H23AG; KL-6; MAM6; PEM; PEMT; PUM
Size: 0.1 mg
Concentration: 0.5 mg/ml
Clone: HMPV
Immunogen: Human Milk Fat Globule Membranes
Isotype: Mouse IgG1, κ
Reactivity: QC Testing: Human
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description
The HMPV monoclonal antibody specifically binds to CD227 which is also known as Mucin-1 (MUC1). A major form of CD227 is expressed as a type I transmembrane glycoprotein. CD227 belongs to the epithelial mucin family whose members are heavily O-glycosylated and characterized by high molecular weight, and an amino acid composition rich in serine, threonine, proline, and glycine. CD227 is variably expressed on the surfaces of normal and malignant glandular and ductal epithelial cells, and some hematopoietic cell lineages including subsets of T cells, B cells, monocytes and dendritic cells. Soluble forms of CD227 may arise by shedding from the cell surface or by secretion of forms derived from alternative RNA splicing. The HMPV antibody binds to the core peptide of the MUC1 protein. The core protein contains a domain of 20 amino-acid tandem repeats which function as multiple epitopes for this monoclonal antibody. Incomplete glycosylation of some tumor-associated mucins may lead to variable unmasking of the multiple peptide epitopes leading to the observed differences in immunostaining intensities between cells from normal and malignant tissues. CD227 plays roles in the provision of protective barrier function, the regulation of cellular adhesion, and the transduction of multiple signal pathways.

Flow cytometric profile of MUC1 (CD227) expression on U266 cells. Human B lymphocyte cell line U266 was stained with either Purified Mouse Anti-Human MUC1 (CD227) (Cat. No. 555925; solid line histogram) or Purified Mouse IgG1, κ Isotype Control (Cat. No. 555746; dashed line histogram). Secondary staining was carried out with FITC Goat Anti-Mouse IgG1κM (Cat. No. 555988). Fluorescence histograms were derived from gated events with the side and forward light-scatter characteristics of viable lymphocytes.

Preparation and Storage
Store undiluted at 4°C.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

<table>
<thead>
<tr>
<th>Application</th>
<th>Tested During Development</th>
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<tbody>
<tr>
<td>Flow cytometry</td>
<td>Routinely Tested</td>
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<tr>
<td>Immunohistochemistry-frozen</td>
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<tr>
<td>Immunohistochemistry-formalin (antigen retrieval required)</td>
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</tbody>
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United States 877.232.8995 Canada 866.979.9408 Europe 32.2.400.98.95 Japan 0120.8555.90 Asia Pacific 65.6861.0633 Latin America/Caribbean 55.11.5185.9995

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### Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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</thead>
<tbody>
<tr>
<td>555746</td>
<td>Purified Mouse IgG1, κ Isotype Control</td>
<td>0.1 mg</td>
<td>MOPC-21</td>
</tr>
<tr>
<td>555988</td>
<td>FITC Goat Anti-Mouse IgG/IgM</td>
<td>0.5 mg</td>
<td>Polyclonal</td>
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<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 mL</td>
<td>(none)</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
<td>500 mL</td>
<td>(none)</td>
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### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.

### References


