**DESCRIPTION**

**Species Reactivity**  
Human

**Specificity**  
Detects human Semaphorin 4D/CD100 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human Semaphorin 4B, 4C, 4G, or recombinant mouse Semaphorin 4D is observed. In Western blots, no cross-reactivity with rhSemaphorin 4A, 6A, or 6C is observed.

**Source**  
Monoclonal Mouse IgG

**Clone #**  
758726

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

**Immunogen**  
Chinese hamster ovary cell line CHO-derived recombinant human Semaphorin 4D/CD100 Met22-Arg734  
Accession # Q92854

**Formulation**  
Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**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>
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<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>CyTOF-ready</td>
<td>Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.</td>
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**DATA**

**Western Blot**  
Detection of Human Semaphorin 4D/CD100 by Western Blot. Western blot shows lysates of IMR-32 human neuroblastoma cell line and Y-79 human retinoblastoma cell line. PVDF membrane was probed with 2 μg/mL of Mouse Anti-Human Semaphorin 4D/CD100 Monoclonal Antibody (Catalog # MAB74701) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Semaphorin 4D/CD100 at approximately 150 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Flow Cytometry**  
Detection of Semaphorin 4D/CD100 in Jurkat Human Cell Line by Flow Cytometry. Jurkat human acute T cell leukemia cell line was stained with Mouse Anti-Human Semaphorin 4D/CD100 Monoclonal Antibody (Catalog # MAB74701, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B).

**PREPARATION AND STORAGE**

**Reconstitution**  
Sterile PBS to a final concentration of 0.5 mg/mL.

**Shipping**  
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**  
- 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**

Semaphorin 4D (Sema4D/CD100, previously sem J, G or C-like 2) is a widely expressed 150 kDa type I transmembrane glycoprotein of the Class 4 Semaphorin family with activity in the immune and nervous systems. The 861 amino acid (aa) Semaphorin 4D contains a 710 aa extracellular domain (ECD) with a sema domain and an immunoglobulin-like domain. Within the ECD region used as an immunogen, mouse Semaphorin 4D shares 87% and 93% aa identity with human and rat Semaphorin 4D, respectively. A soluble, active 120 kDa form is produced proteolytically upon activation of B and T cells. Semaphorin 4D binds CD72 on B and dendritic cells and Plexin B1 elsewhere. In developing neurons, Semaphorin 4D assists in guidance. Semaphorin 4D is proangiogenic when expressed by tumor-associated macrophages.