**DESCRIPTION**

**Species Reactivity**  
Human/Mouse/Rat

**Specificity**  
Detects human, mouse, and rat Smad7.

**Source**  
Monoclonal Mouse IgG2B Clone # 293039

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

**Immunogen**  
E. coli-derived recombinant human Smad7  
Gly320-Ser398  
Accession # O15105

**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.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
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<tbody>
<tr>
<td>1 μg/mL</td>
<td>See Below</td>
</tr>
<tr>
<td>8-25 μg/mL</td>
<td>See Below</td>
</tr>
<tr>
<td>10 μg/mL</td>
<td>See Below</td>
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</table>

**DATA**

**Western Blot**  
Detection of Human/Mouse/Rat Smad7 by Western Blot. Western blot shows lysates of H9 human cutaneous T lymphoma cell line, PT18 mouse mast/basophil cell line, and Rat-2 rat embryonic fibroblast cell line. PVDF membrane was probed with 1 μg/mL of Human/Mouse/Rat Smad7 Monoclonal Antibody (Catalog # MAB2029) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Smad7 at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 2.

**Immunohistochemistry**  
Smad7 in Human Liver Cancer Tissue. Smad7 was detected in immersion fixed paraffin-embedded sections of human liver cancer tissue using 25 μg/mL Human/Mouse/Rat Smad7 Monoclonal Antibody (Catalog # MAB2029) overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

**Simple Western**  
Detection of Human Smad7 by Simple Western™. Simple Western lane view shows lysates of SF21 S. frugiperda insect ovarian cell line transfected with human Smad7, loaded at 0.2 mg/mL. A specific band was detected for Smad7 at approximately 56 kDa (as indicated) using 10 μg/mL of Mouse Anti-Human/Mouse/Rat Smad7 Monoclonal Antibody (Catalog # MAB2029). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

**PREPARATION AND STORAGE**

**Reconstitution**  
Reconstitute at 0.5 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.

- 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.

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BACKGROUND

Smads are a family of intracellular proteins that transmit transforming growth factor beta (TGF-β) superfamily signals from the cell surface to the nucleus. The Smad family is divided into three subclasses: receptor regulated Smads, (Smads 1, 2, 3, 5 and 8); the common partner, (Smad4) that functions via its interaction to the various Smads; and the inhibitory Smads, (Smads 6 and 7). Smad7, also known as Mothers Against Decapentaplegic homolog 7 (MAD7), inhibits selected pathways by binding directly to cell-surface receptors and preventing the activation-induced phosphorylation of other Smad subunits.