

## DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat Smad7.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 293039
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Smad7 Gly320-Ser398 Accession # O15105
<b>Formulation</b>	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

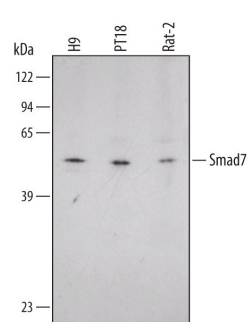
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 μg/mL	See Below
<b>Immunohistochemistry</b>	8-25 μg/mL	See Below

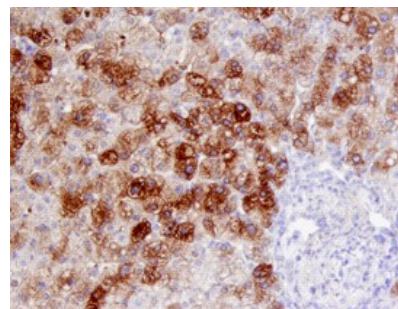
## DATA

### Western Blot



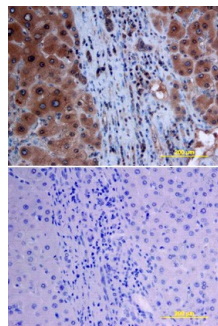
**Detection of Human/Mouse/Rat Smad7 by Western Blot.** Western blot shows lysates of H9 human cutaneous T lymphoma cell line, PT18 mouse mast/basophil cell line, and Rat-2 rat embryonic fibroblast cell line. PVDF membrane was probed with 1 μg/mL of Human/Mouse/Rat Smad7 Monoclonal Antibody (Catalog # 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 with 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](#).

### Immunohistochemistry



**Smad7 in Human Liver.** Smad7 was detected in immersion fixed paraffin-embedded sections of human liver array using Human/Mouse/Rat Smad7 Monoclonal Antibody (Catalog # MAB2029) at 25 μg/mL 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). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 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.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month from date of receipt, 2 to 8 °C, reconstituted.</li> <li>● 6 months from date of receipt, -20 to -70 °C, reconstituted.</li> </ul>

## BACKGROUND

Smads are a family of intracellular proteins that transmit transforming growth factor beta (TGF- $\beta$ ) 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 (MADH7), inhibits selected pathways by binding directly to cell-surface receptors and preventing the activation-induced phosphorylation of other Smad subunits.