

DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Smad1 in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant human (rh) Smad5 is observed, and less than 5% cross-reactivity rhSmad4 and rhSmad9 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Smad1 Asn2-Met454 Accession # Q15797
<b>Formulation</b>	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.

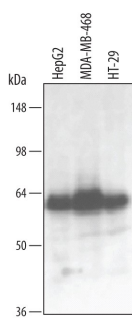
**APPLICATIONS**

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.5 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Simple Western</b>	5 µg/mL	See Below

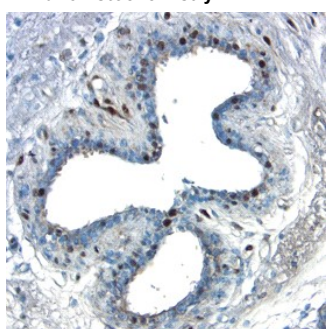
**DATA**

**Western Blot**



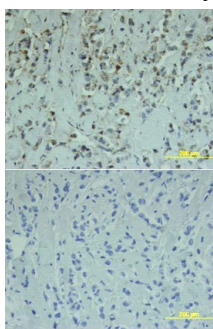
**Detection of Human Smad1 by Western Blot.** Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line, MDA-MB-468 human breast cancer cell line, and HT-29 human colon adenocarcinoma cell line. PVDF membrane was probed with 0.5 µg/mL of Goat Anti-Human Smad1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2039) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for Smad1 at approximately 63 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunohistochemistry**



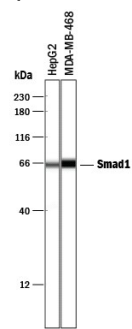
**Smad1 in Human Breast Cancer Tissue.** Smad1 was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Goat Anti-Human Smad1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2039) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the nuclei of glandular epithelial cells. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

**Immunohistochemistry**




**Smad1 in Human Breast.** Smad1 was detected in immersion fixed paraffin-embedded sections of human breast array using Goat Anti-Human Smad1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2039) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) 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](#).

**Simple Western**



**Detection of Human Smad1 by Simple Western™.** Simple Western lane view shows lysates of HepG2 human hepatocellular carcinoma cell line and MDA-MB-468 human breast cancer cell line, loaded at 0.2 mg/mL. A specific band was detected for Smad1 at approximately 66 kDa (as indicated) using 5 µg/mL of Goat Anti-Human Smad1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2039) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.2 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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</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. Upon signaling by some BMP family members, Smad1 is phosphorylated resulting in its association with the common-mediator subunit, Smad4. This heteromeric complex then translocates into the nucleus to exert transcriptional comodulator activity.