

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Smad4 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 253343
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Smad4 Pro139-Asp332 Accession # Q13485
<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.

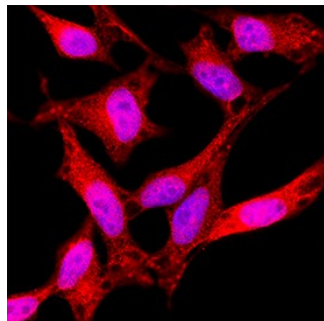
## APPLICATIONS

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Immunocytochemistry</b>	3-25 µg/mL	Immersion fixed HeLa human cervical epithelial carcinoma cell line
<b>Intracellular Staining by Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

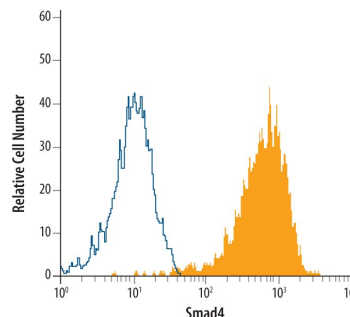
## DATA

### Immunocytochemistry



**Smad4 in HeLa Human Cell Line.** Smad4 was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Mouse Anti-Human Smad4 Monoclonal Antibody (Catalog # MAB2097) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. Staining was performed using our protocol for Fluorescent ICC Staining of Non-adherent Cells.

### Intracellular Staining by Flow Cytometry



**Detection of Smad4 in HeLa Human Cell Line by Flow Cytometry.** HeLa human cell line was stained with Mouse Anti-Human Smad4 Monoclonal Antibody (Catalog # MAB2097, filled histogram) or isotype control antibody (Catalog # Catalog # MAB0041, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # Catalog # F0101B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

## 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. *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

Mothers Against Decapentaplegic homolog 4 (Smad4) belongs to a family of intracellular proteins that transmit transforming growth factor beta (TGF-β) superfamily signals from the cell surface to the nucleus. Upon signal-induced phosphorylation, Smad subunits associate with the common-mediator subunit, Smad4. This heteromeric complex then translocates into the nucleus to exert transcriptional comodulator activity.

## PRODUCT SPECIFIC NOTICES

This product is covered by one or more of the following US patents: 5,712,097; 5,814,457; 5,955,292 and other pending US patent applications and foreign equivalents.