

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human BMPR-IB/ALK-6 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse BMPR-IB is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 477914
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human BMPR-IB/ALK-6 Lys14-Arg126 Accession # O00238
<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.

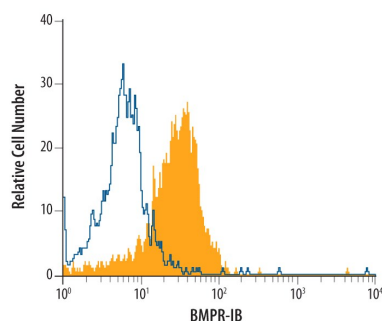
## APPLICATIONS

**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>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	See Below
<b>Immunocytochemistry</b>	8-25 µg/mL	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.	

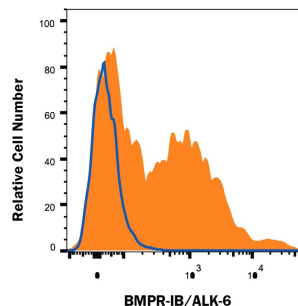
## DATA

### Flow Cytometry



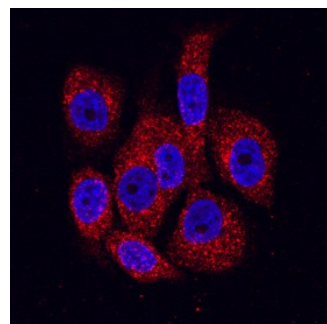
**Detection of BMPR-IB/ALK-6 in PC-3 Human Cell Line by Flow Cytometry.** PC-3 human prostate cancer cell line was stained with Mouse Anti-Human BMPR-IB/ALK-6 Monoclonal Antibody (Catalog # MAB5051, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # F0101B).

### Flow Cytometry



**Detection of BMPR-IB/ALK-6 in Human iPS cells differentiated to Mesoderm by Flow Cytometry.** Human iPS cells differentiated to mesoderm (using Catalog # SC030B) were stained with Mouse Anti-Human BMPR-IB/ALK-6 Monoclonal Antibody (Catalog # MAB5051, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram) followed by anti-Mouse IgG PE-conjugated secondary antibody (Catalog # F0101B). View our protocol for [Staining Membrane-associated Proteins](#).

### Immunocytochemistry



**BMPR-IB/ALK-6 in PC-3 Human Cell Line.** BMPR-IB/ALK-6 was detected in immersion fixed PC-3 human prostate cancer cell line using Mouse Anti-Human BMPR-IB/ALK-6 Monoclonal Antibody (Catalog # MAB5051) at 10 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 the cytoplasm and cell surface. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

## 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**

Cellular responses to bone morphogenetic proteins (BMPs) have been shown to be mediated by the formation of hetero-oligomeric complexes of the type I and type II serine/threonine kinase receptors. BMP receptor IB (BMPR-IB), also known as activin receptor-like kinase (ALK)-6, is one of seven known type I serine/threonine kinases that are required for the signal transduction of TGF- $\beta$  family cytokines. In contrast to the TGF- $\beta$  receptor system in which the type I receptor does not bind TGF- $\beta$  in the absence of the type II receptor, type I receptors involved in BMP signaling (including BMPR-IA, BMPR-IB/ALK-6, and ActR-I/ALK-2) can independently bind the various BMP family proteins in the absence of type II receptors. Recombinant soluble BMPR-IB binds BMP-4 with high-affinity in solution and is a potent BMP-4 antagonist *in vitro*. BMPR-IB is expressed in various tissues during embryogenesis. In adult tissues, BMPR-IB is only found in the brain. The extracellular domain of BMPR-IB shares little amino acid sequence identity with the other mammalian ALK type I receptor kinases, but the cysteine residues are conserved. Human and mouse BMPR-IB are highly conserved and share 98% amino acid sequence identity.

**References:**

1. Kawabata, M. *et al.* (1998) Cytokine and Growth Factor Reviews **9**:49.
2. Ebendal, T. *et al.* (1998) J. Neuroscience Research **51**:139.