

## DESCRIPTION

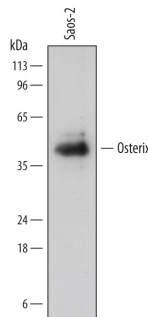
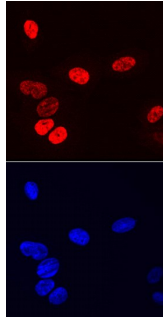
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Osterix/Sp7 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 764704
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Osterix/Sp7 Met19-Leu288 Accession # Q8TDD2
<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 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>	1 µg/mL	See Below
<b>Immunocytochemistry</b>	8-25 µg/mL	See Below

## DATA

<p><b>Western Blot</b></p>  <p><b>Detection of Human Osterix/Sp7 by Western Blot.</b> Western blot shows lysates of Saos-2 human osteosarcoma cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Osterix/Sp7 Monoclonal Antibody (Catalog # MAB7547) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Osterix/Sp7 at approximately 45 kDa (as indicated). This experiment was conducted under reducing conditions and using <a href="#">Immunoblot Buffer Group 1</a>.</p>	<p><b>Immunocytochemistry</b></p>  <p><b>Osterix/Sp7 in Saos-2 Human Cell Line.</b> Osterix/Sp7 was detected in immersion fixed Saos-2 human osteosarcoma cell line using Mouse Anti-Human Osterix/Sp7 Monoclonal Antibody (Catalog # MAB7547) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red, upper panel; Catalog # NL007) and counterstained with DAPI (blue, lower panel). Specific staining was localized to nuclei. View our protocol for <a href="#">Fluorescent ICC Staining of Cells on Coverslips</a>.</p>
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## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<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

Osterix, also known as Sp7, is an approximately 45 kDa transcription factor that is required for osteogenesis and bone homeostasis. Osterix cooperates with BMP-6 in the differentiation of osteoblasts from mesenchymal stem cells by regulating the transcription of several genes involved in osteoblast differentiation and function (i.e. SATB2, Collagen V, and SOST). The transcription of Osterix is induced by BMP-2, IGF-I, and parathyroid hormone, while its activity is regulated by Akt and p38 MAPK-mediated phosphorylation. Osterix contains a transactivation domain (aa 141-210) and three zinc finger domains (aa 294-318, aa 324-348, and aa 354-376). Alternative splicing generates a short isoform that lacks the N-terminal 18 amino acids. Within aa 19-288, human Osterix shares 94% aa sequence identity with mouse and rat Osterix.