

**DESCRIPTION**

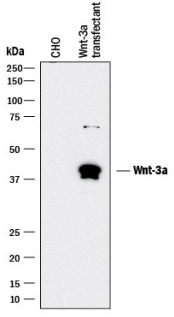
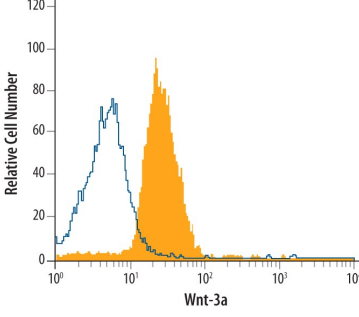
<b>Species Reactivity</b>	Human/Mouse
<b>Specificity</b>	Detects mouse Wnt-3a in direct ELISAs.
<b>Source</b>	Recombinant Monoclonal Rat IgG <sub>2A</sub> Clone # 217804.2R
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant mouse Wnt-3a Ser36-Gln75, Trp219-Arg269 Accession # P27487
<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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	See Below
<b>Intracellular Staining by Flow Cytometry</b>	0.25 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**

<p><b>Western Blot</b></p>  <p><b>Detection of Mouse Wnt-3a by Western Blot.</b> Western blot shows lysates of CHO Chinese hamster ovary cell line either mock transfected or transfected with mouse Wnt-3a. PVDF membrane was probed with 1 µg/mL of Rat Anti-Human/Mouse Wnt-3a Monoclonal Antibody (Catalog # MAB13242) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for Wnt-3a at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p><b>Intracellular Staining by Flow Cytometry</b></p>  <p><b>Detection of Wnt3A in BGO1V Human Stem Cells by Flow Cytometry.</b> BGO1v human embryonic stem cells were stained with Rat Anti-Human/Mouse Wnt-3a Monoclonal Antibody (Catalog # MAB13242, filled histogram) or isotype control antibody (Catalog # MAB006, open histogram), followed by Allophycocyanin-conjugated Anti-Rat IgG Secondary Antibody (Catalog # F0113). To facilitate intracellular staining, cells were fixed and permeabilized with FlowX FoxP3/Transcription Factor Fixation &amp; Permeabilization Buffer Kit (Catalog # FC012).</p>
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**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**

Wnt-3a is one of about 19 vertebrate members of the Wingless-type MMTV integration site (Wnt) family of highly conserved cysteine-rich secreted glycoproteins important for normal developmental processes (1-3). Wnts bind to receptors of the Frizzled family in conjunction with a coreceptor of the low-density lipoprotein receptor-related protein family (LRP-5 or -6), or the Ryk atypical receptor tyrosine kinase (1, 4). Mouse Wnt-3a is a 44 kDa secreted hydrophobic glycoprotein containing a conserved pattern of 24 cysteine residues (5). Like other Wnts, Wnt-3a is modified by palmitate addition (at Cys 77) following glycosylation, which increases its hydrophobicity, secretion and activity (6, 7). A second site at Ser 209 is modified by palmitoleic acid and also contributes to activity and secretion (8). Mouse Wnt-3a shares 96% amino acid (aa) identity with human Wnt-3a, and 97% with bovine and canine Wnt-3a. The rat Wnt-3a precursor as it is apparently translated shares 100% aa identity with mouse Wnt-3a aa 63-352 (9). Wnt-3a also shares 87% aa identity with Wnt-3. During development, Wnt-3a is morphogen that is thought to coordinate somitogenesis and mesoderm boundary determination, and is expressed at the same locations and times as Wnt-2b and Wnt-5a (10). When Wnt-3a is deleted, mice fail to develop a hippocampus, and show defects in anterior-posterior patterning, somite development and tailbud formation (10-13). Recombinant Wnt-3a promotes proliferation of committed stem cell lineages *in vitro*, and may help maintain the cells in an undifferentiated state (6, 14) For example, Wnt-3a can induce self-renewal of hematopoietic stem cells, allowing expansion without further differentiation (6).

**References:**

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