

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Oct-4A in Western blots.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 653108
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Oct-4A Met1-Glu135 Accession # NP_002692
<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.

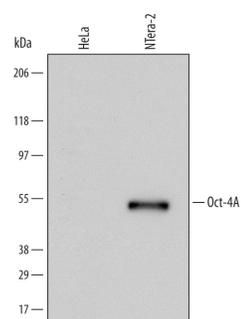
**APPLICATIONS**

**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>Western Blot</b>	0.5 µg/mL	See Below
<b>Immunocytochemistry</b>	8-25 µg/mL	See Below
<b>Intracellular Staining by Flow Cytometry</b>	2.5 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.	

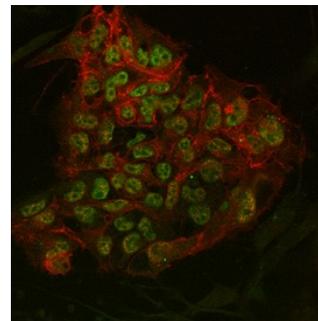
**DATA**

**Western Blot**



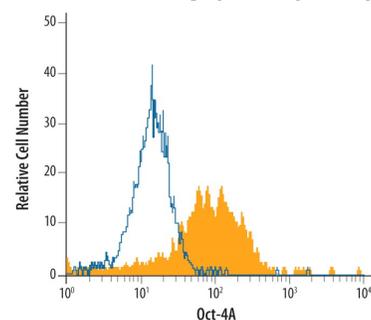
**Detection of Human Oct-4A by Western Blot.** Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line and Ntera-2 human testicular embryonic carcinoma cell line. PVDF Membrane was probed with 0.5 µg/mL of Mouse Anti-Human Oct-4A Monoclonal Antibody (Catalog # MAB17591) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Oct-4A at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

**Immunocytochemistry**



**Oct-4A and E-Cadherin in BG01V Human Stem Cells.** Oct-4A and E-Cadherin were detected in human BG01V embryonic stem cells grown on irradiated MEF cells using 10 µg/mL Human Oct-4A Monoclonal Antibody (Catalog # MAB17591) and 10 µg/mL Human E-Cadherin Affinity-purified Polyclonal Antibody (Catalog # AF648). Cells were incubated with primary antibodies for 3 hours at room temperature. Cells were stained for Oct-4A using the NorthernLights™ 493-conjugated Anti-Mouse IgG Secondary Antibody (green; Catalog # NL009), and stained for E-Cadherin using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001). Specific staining of Oct-4A was localized to nuclei. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

**Intracellular Staining by Flow Cytometry**



**Detection of Oct-4A in BG01V Human Stem Cells by Flow Cytometry.** BG01V human embryonic stem cells was stained with Human Oct-4A Monoclonal Antibody (Catalog # MAB17591, filled histogram) or isotype control antibody (Catalog # MAB003, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

## 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

Oct-3/4, alternately Oct-3 or Oct-4, is POU5F1 (POU domain containing, class 5, transcription factor 1), a 360 amino acid (aa) transcription factor that is expressed in totipotent embryonic stem and germ cells. The human Oct-4, Oct-3/4 or POU5F1 gene can be transcribed into at least three transcripts (Oct-4A, Oct-4B, and Oct-4B1) and generates four protein isoforms by alternative splicing and alternative translation initiation. Oct-4A expression is restricted to embryonic stem (ES) and embryonic carcinoma (EC) cells and is believed to be the transcription factor responsible for the pluripotency properties of embryonic stem (ES) cells. In contrast, Oct-4B/4B1 can be detected in various nonpluripotent cell types and cannot sustain ES cell pluripotency and self-renewal.