

*Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS

R&D Systems

Tools for Cell Biology Research™

Human Oct-4A Antibody

Monoclonal Mouse IgG_{2A} Clone # 653108

Catalog Number: MAB17591

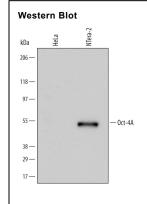
DESCRIPTION			
Species Reactivity	Human		
Specificity	Detects human Oct-4A in Western blots.		
Source	Monoclonal Mouse IgG _{2A} Clone # 653108		
Purification	Protein A or G purified from hybridoma culture supernatant		
Immunogen	E.coli-derived recombinant human Oct-4A Met1-Glu135 Accession # NP_002692		
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.		

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.

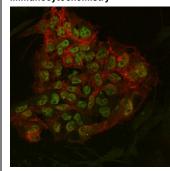
	Recommended Concentration	Sample
Western Blot	0.5 μg/mL	See Below
Immunocytochemistry	8-25 μg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10 ⁶ cells	See Below

DATA

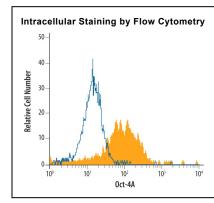


Detection of Human Oct-4A by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line and NTera-2 human testicular embryonic carcinoma cell line. PVDF Membrane was probed with 0.5 µg/mL of Human Oct-4A Monoclonal Antibody (Catalog # MAB17591) followed by IRP-conjugated 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 Northern-Lights™ 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.



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')₂ Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

PREPARATION AND STORAGE

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

Shipping 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 $^\circ$ C

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution





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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.

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