

DESCRIPTION

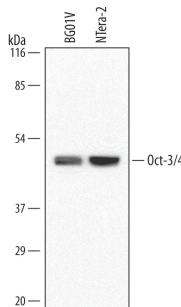
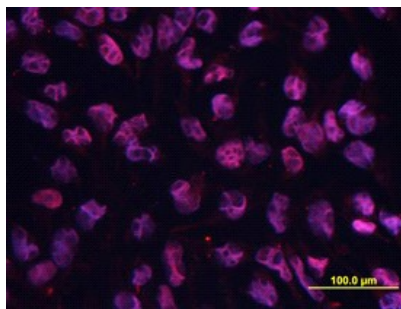
Species Reactivity	Human/Mouse
Specificity	Detects human Oct-3/4 in Western blots and detects mouse Oct-3/4 in flow cytometry.
Source	Monoclonal Rat IgG _{2B} Clone # 240408
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Oct-3/4 Met1-Asn265 (Met262Leu) Accession # Q01860
Formulation	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.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunocytochemistry	8-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10 ⁶ cells	BG01V human embryonic stem cells and D3 mouse embryonic stem cell line fixed with paraformaldehyde and permeabilized with saponin
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

<p>Western Blot</p>  <p>Detection of Human Oct-3/4 by Western Blot. Western blot shows lysates of BG01V human embryonic stem cells and NTera-2 human testicular embryonic carcinoma cell line. PVDF membrane was probed with 1 µg/mL of Rat Anti-Human/Mouse Oct-3/4 Monoclonal Antibody (Catalog # MAB1759) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for Oct-3/4 at approximately 46 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunocytochemistry</p>  <p>Oct-3/4 in BG01V Human Embryonic Stem Cells. Oct-3/4 was detected in immersion fixed BG01V human embryonic stem cells using Rat Anti-Human/Mouse Oct-3/4 Monoclonal Antibody (Catalog # MAB1759) at 10 µg/mL for 3 hours at room temperature. Cells were stained using Rhodamine Red-coupled anti-rat IgG (red) and counterstained with DAPI (blue). Specific staining was localized to nuclei. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>
---	--

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 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.

BACKGROUND

Oct-3/4, also termed Oct-3 or Oct-4, is a POU transcription factor that is expressed in totipotent embryonic stem and germ cells.(2, 3) Oct-3/4 is required to sustain stem cell self-renewal and pluripotency.(4) It is considered a master regulator of pluripotency that controls lineage commitment and is the most widely recognized marker of totipotent embryonic stem cells.

References:

1. Takeda, J. *et al.* (1992) *Nucleic Acids Res.* **20**:4613.
2. Scholer, H.R. *et al.* (1989) *EMBO J.* **8**:2543.
3. Rosner, M.H. *et al.* (1990) *Nature* **345**:686.
4. Niwa, H. *et al.* (2000) *Nat. Genet.* **24**:372.