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#75463

# Oct-4 (D705Z) Mouse mAb

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UniProt ID #Q01860

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**For Research Use Only. Not For Use In Diagnostic Procedures.****Applications**  
W, IF-IC, F  
Endogenous**Species Cross-Reactivity\***  
H, M**Molecular Wt.**  
45 kDa**Isotype**  
Mouse IgG1\*\*

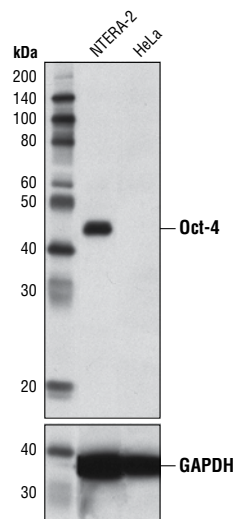
**Background:** Oct-4 (POU5F1) is a transcription factor highly expressed in undifferentiated embryonic stem cells and embryonic germ cells (1). A network of key factors that includes Oct-4, Nanog, and Sox2 is necessary for the maintenance of pluripotent potential, and downregulation of Oct-4 has been shown to trigger cell differentiation (2,3). Research studies have demonstrated that Oct-4 is a useful germ cell tumor marker (4). Oct-4 exists as two splice variants, Oct-4A and Oct-4B (5). Recent studies have suggested that the Oct-4A isoform has the ability to confer and sustain pluripotency, while Oct-4B may exist in some somatic, non-pluripotent cells (6,7).

**Specificity/Sensitivity:** Oct-4 (D705Z) Mouse mAb recognizes endogenous levels of total Oct-4 protein. This antibody does not perform optimally on mouse cells in immunofluorescence assays.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Phe38 of human Oct-4 protein.

**Background References:**

- (1) Looijenga, L.H. et al. (2003) *Cancer Res* 63, 2244-50.
- (2) Pesce, M. and Schöler, H.R. (2001) *Stem Cells* 19, 271-278.
- (3) Pan, G. and Thomson, J.A. (2007) *Cell Res* 17, 42-9.
- (4) Cheng, L. et al. (2007) *J Pathol* 211, 1-9.
- (5) Takeda, J. et al. (1992) *Nucleic Acids Res* 20, 4613-20.
- (6) Cauffman, G. et al. (2006) *Stem Cells* 24, 2685-91.
- (7) Lee, J. et al. (2006) *J Biol Chem* 281, 33554-65.



Western blot analysis of extracts from NTERA-2 and HeLa cells using Oct-4 (D705Z) Mouse mAb (upper) and GAPDH (D16H11) XP® Rabbit mAb #5174 (lower). As expected, HeLa cells are negative for Oct-4 expression.

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

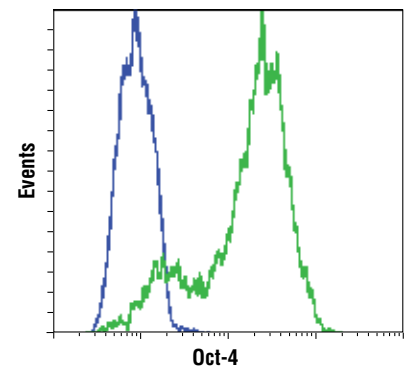
\*Species cross-reactivity is determined by western blot.

\*\*Anti-mouse secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

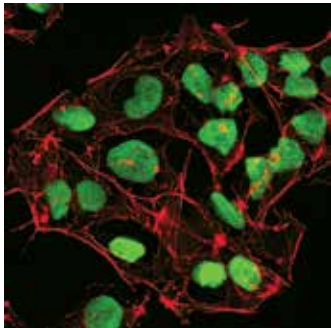
Western blotting	1:1000
Immunofluorescence (IF-IC)	1:200
Flow Cytometry	1:50

For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com)

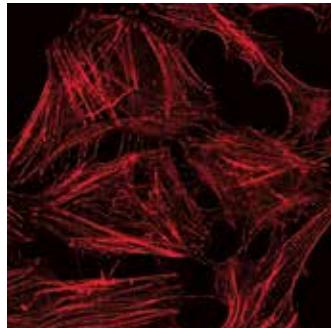


Flow cytometric analysis of HeLa cells (blue) and NTERA cells (green) using Oct-4 (D705Z) Mouse mAb. Anti-mouse IgG (H+L), F(ab')<sub>2</sub> fragment (Alexa Fluor® 488 conjugate) #4408 was used as a secondary Ab.

NTERA-2



HeLa



◀ Confocal immunofluorescent analysis of NTERA-2 (left) and HeLa (right) cells using Oct-4 (D705Z) Mouse mAb (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054 (red). As expected, HeLa cells are negative for Oct-4 expression.

**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.**

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