

#2750 Store at -20°C

Oct-4 Antibody

100 µl
 (10 western blots)



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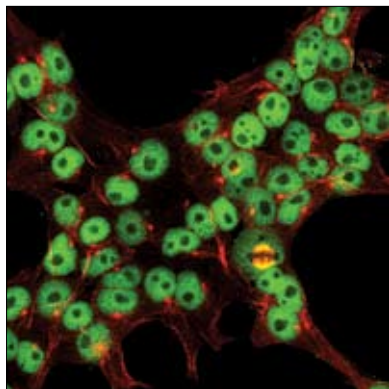
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IHC-P, IF-IC, ChIP, F Endogenous	H	45 kDa	Rabbit**

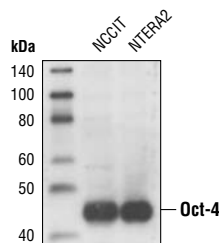
Background: Oct-4 (POU5F1) is a transcription factor highly expressed in undifferentiated embryonic stem cells and embryonic germ cells (1). A network of key factors that includes Oct-4, Nanog, and Sox2 is necessary for the maintenance of pluripotent potential, and downregulation of Oct-4 has been shown to trigger cell differentiation (2,3). 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 it is the Oct-4A isoform that has the ability to confer and sustain pluripotency, and that Oct-4B may exist in some somatic, non-pluripotent cells (6,7).

Specificity/Sensitivity: Oct-4 Antibody detects endogenous levels of total Oct-4 protein.

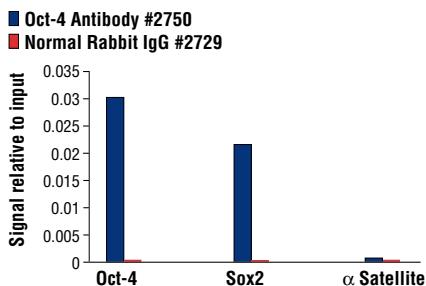
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to amino acids near the carboxy terminus of human Oct-4. Antibodies are purified by protein A and peptide affinity chromatography.



Confocal immunofluorescent analysis of NCCIT cells using Oct-4 Antibody (green) and β -Tubulin (9F3) Rabbit mAb (Alexa Fluor® 555 Conjugate) #2116 (red).



Western blot analysis of NCCIT and NTERA2 cell extracts using Oct-4 Antibody.



Chromatin immunoprecipitations were performed with cross-linked chromatin from 4×10^6 NCCIT cells and either 20 μ l of Oct-4 Antibody #2750 or 2 μ l of Normal Rabbit IgG #2729 using SimpleChIP™ Enzymatic Chromatin IP Kit (Magnetic Beads) #9003. The enriched DNA was quantified by Real-Time PCR using primers specific for the Oct-4 and Sox2 genes, and the heterochromatic α Satellite repeat element. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the total amount of input chromatin, which is equivalent to one.

Entrez-Gene ID #5460
Swiss-Prot Acc. #Q01860

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

***Species cross-reactivity is determined by Western blot.**

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

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:200
Unmasking buffer:	Citra
Antibody diluent:	SignalStain® Antibody Diluent #8112
Immunofluorescence (IF-IC)	1:400
Chromatin IP	1:25
Flow Cytometry:	1:200

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

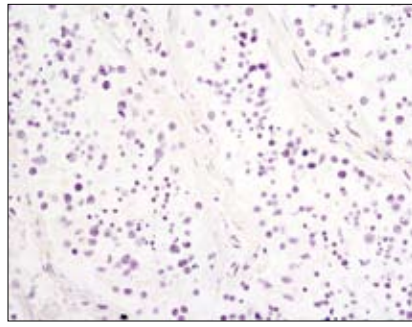
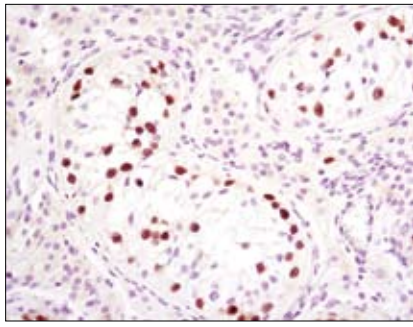
Background References:

- (1) Looijenga, L.H. et al. (2003) *Cancer Res.* 63, 2244–2250.
- (2) Pesce, M. and Schöler, H.R. (2001) *Stem Cells* 19, 271–278.
- (3) Pan, G. and Thomson, J.A. (2007) *Cell Res.* 17, 42–49.
- (4) Cheng, L. et al. (2007) *J. Pathol.* 211, 1–9.
- (5) Takeda, J. et al. (1992) *Nucleic Acids Res.* 20, 4613–4620.
- (6) Cauffman, G. et al. (2006) *Stem Cells* 24, 2685–2691.
- (7) Lee, J. et al. (2006) *J. Biol. Chem.* 281, 33554–33565.

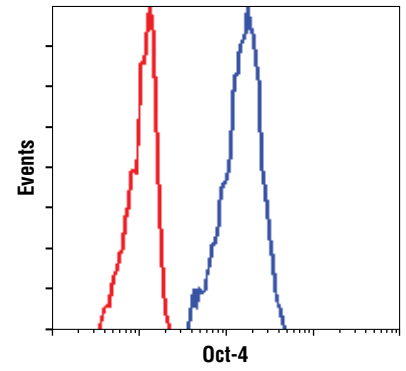
IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Immunohistochemical analysis of paraffin-embedded human seminoma (left) and normal testis (right), showing nuclear localization using Oct-4 Antibody.



Flow cytometric analysis of untreated NCCIT cells using Oct-4 Antibody (blue) compared to a nonspecific negative control antibody (red).