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Oct-4 Antibody

Store at -20C

#2750

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IHC-P, IF-IC, FC-FP, ChIP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 45	Source/Isotype: Rabbit
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Product Usage Information

For optimal ChIP results, use 20 µl of antibody and 10 µg of chromatin (approximately 4 x 10⁶ cells) per IP. This antibody has been validated using SimpleChIP[®] Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:800
Immunofluorescence (Immunocytochemistry)	1:200
Flow Cytometry (Fixed/Permeabilized)	1:400
Chromatin IP	1:25

Storage

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

Specificity/Sensitivity

Oct-4 Antibody detects endogenous levels of total Oct-4 protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to amino acids near the carboxy terminus of human Oct-4. Antibodies are purified by peptide affinity chromatography.

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).

Background References

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

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP

Cross-Reactivity Key

H: Human

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