



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at -20C  
#2890

## Oct-4A (C52G3) Rabbit mAb

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-P, IF-IC, FC-FP, ChIP, ChIP-seq	H	Endogenous	45	Rabbit IgG	#Q01860	5460

### Product Usage Information

For optimal ChIP and ChIP-seq results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10<sup>6</sup> cells) per IP. This antibody has been validated using SimpleChIP<sup>®</sup> Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:600 - 1:2400
Immunofluorescence (Immunocytochemistry)	1:400 - 1:800
Flow Cytometry (Fixed/Permeabilized)	1:50 - 1:200
Chromatin IP	1:50
Chromatin IP-seq	1:50

### 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.

For a carrier free (BSA and azide free) version of this product see product #85676.

### Specificity/Sensitivity

Oct-4A (C52G3) Rabbit mAb detects endogenous levels of total Oct-4A protein. Based on high sequence homology, this antibody may also detect OCT4-PG1.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the amino terminus of human Oct-4A.

### 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 **ChIP-seq:** Chromatin IP-seq

### Cross-Reactivity Key

**H:** Human

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