Revision 1

Store at +4C

#7685

Sox2 (D6D9) XP® Rabbit mAb (Alexa Fluor® 594 Conjugate)

Cell Signaling TECHNOLOGY®

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

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IF-IC	H	Endogenous	Rabbit IgG	#P48431	6657

Product Usage Information

Application	Dilution
Immunofluorescence (Immunocytochemistry)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

Sox2 (D6D9) XP® Rabbit mAb (Alexa Fluor® 594 Conjugate) detects endogenous levels of Sox2 protein.

Species predicted to react based on 100% sequence homology

Monkey, Bovine, Dog, Horse

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to amino acids surrounding Gly179 of human Sox2 protein.

Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 594 fluorescent dye and tested in-house for direct immunofluorescent analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated Sox2 (D6D9) XP® Rabbit mAb #3579.

Background

Embryonic stem cells (ESC) derived from the inner cell mass of the blastocyst are unique in their pluripotent capacity and potential for self-renewal (1). Research studies demonstrate that a set of transcription factors that includes Oct-4, Sox2, and Nanog forms a transcriptional network that maintains cells in a pluripotent state (2,3). Chromatin immunoprecipitation experiments show that Sox2 and Oct-4 bind to thousands of gene regulatory sites, many of which regulate cell pluripotency and early embryonic development (4,5). siRNA knockdown of either Sox2 or Oct-4 results in loss of pluripotency (6). Induced overexpression of Oct-4 and Sox2, along with additional transcription factors Klf4 and c-Myc, can reprogram both mouse and human somatic cells to a pluripotent state (7,8). Additional evidence demonstrates that Sox2 is also present in adult multipotent progenitors that give rise to some adult epithelial tissues, including several glands, the glandular stomach, testes, and cervix. Sox2 is thought to regulate target gene expression important for survival and regeneration of these tissues (9).

Background References

1. Conley, B.J. et al. (2004) *Int J Biochem Cell Biol* 36, 555-67.
2. Pesce, M. and Schöler, H.R. (2001) *Stem Cells* 19, 271-8.
3. Pan, G. and Thomson, J.A. (2007) *Cell Res* 17, 42-9.
4. Boyer, L.A. et al. (2005) *Cell* 122, 947-56.
5. Loh, Y.H. et al. (2006) *Nat Genet* 38, 431-40.
6. Matin, M.M. et al. (2004) *Stem Cells* 22, 659-68.
7. Takahashi, K. and Yamanaka, S. (2006) *Cell* 126, 663-76.
8. Okita, K. et al. (2007) *Nature* 448, 313-7.
9. Arnold, K. et al. (2011) *Cell Stem Cell* 9, 317-29.

Species Reactivity

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

Applications Key

IF-IC: Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

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