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Sox2 (D6D9) XP[®] Rabbit mAb (ChIP Formulated)

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

Applications: ChIP	Reactivity: H	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #P48431	Entrez-Gene Id: 6657
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Product Usage Information

For optimal ChIP and results, use 10 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
Chromatin IP	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.

Specificity/Sensitivity

Sox2 (D6D9) XP[®] Rabbit mAb (ChIP Formulated) detects endogenous levels of total 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.

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

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- Pan, G. and Thomson, J.A. (2007) *Cell Res* 17, 42-9.
- Boyer, L.A. et al. (2005) *Cell* 122, 947-56.
- Loh, Y.H. et al. (2006) *Nat Genet* 38, 431-40.
- Matin, M.M. et al. (2004) *Stem Cells* 22, 659-68.
- Takahashi, K. and Yamanaka, S. (2006) *Cell* 126, 663-76.
- Okita, K. et al. (2007) *Nature* 448, 313-7.
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Species Reactivity

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

Applications Key

ChIP: Chromatin IP

Cross-Reactivity Key

H: Human

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