

**Sox2 (D1C7J) XP<sup>®</sup> Rabbit mAb**

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**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	H M	Endogenous	35	Rabbit IgG	#P48431	6657

**Product Usage Information****Application**

Western Blotting  
Immunohistochemistry (Paraffin)

**Dilution**

1:1000  
1:300

**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 #10652.

**Specificity/Sensitivity**

Sox2 (D1C7J) XP<sup>®</sup> Rabbit mAb recognizes endogenous levels of total Sox2 protein.

**Species predicted to react based on 100% sequence homology**

Rat

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly152 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**

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).

**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)

**Cross-Reactivity Key**

**H:** Human **M:** Mouse

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