

Store at  
-20°C

#96443

# PhosphoPlus® Sox2 (Ser250/Ser251) Antibody Duet



**Support:** +1-978-867-2388 (U.S.)  
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**Entrez-Gene ID** #6657  
**UniProt ID** #P48431

New 04/18

**For Research Use Only. Not For Use In Diagnostic Procedures.**

Products Included	Product #	Quantity	Mol. Wt.	Isotype
P-Sox2 (S250/S251) (A217G) Rabbit mAb	92186	100 µl	35 kDa	Rabbit IgG
Sox2 (D6D9) XP® Rabbit mAb	3579	100 µl	35 kDa	Rabbit IgG

See [www.cellsignal.com](http://www.cellsignal.com) for individual component applications, species cross-reactivity, dilutions and additional application protocols.

**Description:** Each Duet contains an activation-state and total protein antibody to your target of interest. These antibodies have been selected from CST's product offering based upon superior performance in specified applications.

**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). Phosphorylation on these and other sites on Sox2 have been observed in pluripotent cells as they undergo differentiation, although the mechanism and consequence of this potential regulation is not clear (10).

**Specificity/Sensitivity:** Sox2 (D6D9) XP® Rabbit mAb detects endogenous levels of Sox2 protein. Phospho-Sox2 (Ser250/Ser251) (A217G) Rabbit mAb recognizes endogenous levels of Sox2 protein when dually or singly phosphorylated at Ser250 and Ser251.

**Source/Purification:** Sox2 (D6D9) XP® Rabbit mAb is produced by immunizing animals with a synthetic peptide corresponding to amino acids surrounding Gly179 of human Sox2. Phospho-Sox2 (Ser250/Ser251) (A217G) Rabbit mAb is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser250 and Ser251 of human Sox2 protein.

**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 product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com).**

#### Background References:

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- (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.
- (10) Van Hoof, D. et al. (2009) *Cell Stem Cell* 5, 214-26.

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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.