Pacific Blue™ anti-SOX2 Antibody

Catalog# / Size	656111 / 25 tests 656112 / 100 tests
Clone	14A6A34
Regulatory Status	RUO
Other Names	SRY-related HMG-box gene 2, SRY (sex determining region Y)-box 2, MCOPS3, ANOP3
Isotype	Mouse IgG1, κ
Description	SOX2 is the most studied member of SRY-related box transcription factor family. It binds to target genes through its highly conserved HMG box domain. Inactivation of the SOX2 gene causes lethality during embryonic development. SOX2 knockdown in embryonic stem cells results in their differentiation. Co-expression of SOX with OCT4, MYC, and KLF4 is sufficient to reprogram somatic cells to induce pluripotent stem cells (iPSCs), which exert similar characteristics as natural pluripotent stem cells. These findings indicate that SOX2 is crucial for the self-renewal and pluripotency of embryonic stem cells. In addition, over-expression of SOX2 has been found in various types of malignant cancer. Knockdown of SOX2 results in cell cycle arrest by downregulating cyclin D1 and inhibition of tumor cell proliferation, suggesting that SOX2 is involved in activating genes associated with tumor progression.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Full length human SOX recombinant protein
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with Pacific Blue™ under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. **Do not freeze.**
Application	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular flow cytometry using our True-Nuclear™ Transcription Factor Staining Protocol. For flow cytometric staining, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. * Pacific Blue™ has a maximum emission of 455 nm when it is excited at 405 nm. Prior to using Pacific Blue™ conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Violet Laser (405 nm)
Application Notes	**NOTE**: For flow cytometric staining with this clone, True-Nuclear™ Transcription Factor Buffer Set (Cat. No. 424401) offers improved staining and is highly recommended. This clone is not recommended for ChIP (Chromatin Immunoprecipitation) assays (as determined by in-house testing).
Product Citations	

1. Bellon A, *et al.* 2019. Front Mol Neurosci. 11:323. PubMed

RRID

AB_2566188 (BioLegend Cat. No. 656111)
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Antigen Details

Structure

317 amino acids, predicted molecular weight of 34 kD, contains a HMG box domain responsible for DNA binding

Distribution

Nucleus

Function

Transcription factor that regulates the expression of the genes involved in embryonic development

Interaction

Interacts with FGFR1, SOX3, and ZSCAN10

Cell Type

Embryonic Stem Cells, Mesenchymal Stem Cells, Neural Stem Cells

Biology Area

Cell Biology, Cell Cycle/DNA Replication, Immunology, Neuroscience, Neuroscience Cell Markers, Stem Cells, Transcription Factors

Antigen References

1. Rizzino A. 2009. *Wiley Interdiscip. Rev. Syst. Biol. Med.* 1:228.
2. Stolzenburg S, *et al.* 2012. *Nucleic Acids Res.* 40:6725.
3. Lai YS, *et al.* 2012. *Proc. Natl. Acad. Sci. USA.* 109:3772.
4. Jeong CH, *et al.* 2010. *Stem Cells* 28:2141.
5. Xiang R, *et al.* 2011. *Br. J. Cancer* 104:1410.
6. Card DA, *et al.* 2008. *Mol. Cell Biol.* 28:6426.

Gene ID

6657

Related Protocols

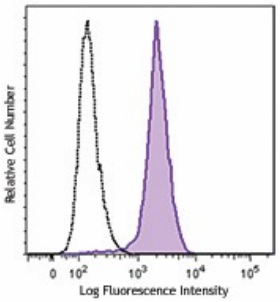
True-Nuclear™ Transcription Factor Staining Protocol for 96-Well U Bottom Plate

True-Nuclear™ Transcription Factor Staining Protocol for 5mL Tubes

Other Formats

Purified anti-SOX2, PE anti-SOX2, Alexa Fluor® 594 anti-SOX2, Alexa Fluor® 488 anti-SOX2, Alexa Fluor® 647 anti-SOX2, Pacific Blue™ anti-SOX2, Brilliant Violet 421™ anti-SOX2

Product Data



Human embryonic carcinoma *NCCIT cells* were fixed and permeabilized with True-Nuclear™ Transcription Factor Buffer Set. Cells were then stained with SOX2 (clone 14A6A34) Pacific Blue™ (filled histogram) or mouse IgG1, κ Pacific Blue™ isotype control (open histogram).

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