

## Alexa Fluor<sup>®</sup> 488 anti-SOX2 Antibody

<b>Catalog# / Size</b>	656109 / 25 µg 656110 / 100 µg
<b>Clone</b>	14A6A34
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	SRY-related HMG-box gene 2, SRY (sex determining region Y)-box 2, MCOPS3, ANOP3
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	<p>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 induced 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.</p>

### Product Details

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<b>Verified Reactivity</b>	Human, Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Full length human SOX recombinant protein
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor <sup>®</sup> 488 under optimal conditions.
<b>Concentration</b>	0.5 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">ICFC - Quality tested</a> <a href="#">ICC - Verified</a>
<b>Recommended Usage</b>	<p>Each lot of this antibody is quality control tested by <a href="#">intracellular immunofluorescent staining with flow cytometric analysis</a>. For flow cytometric staining, the suggested use of this reagent is ≤ 0.25 µg per million cells in 100 µl volume. For immunocytochemistry, a concentration range of 1.0 - 5.0 µg/ml is recommended. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>* Alexa Fluor<sup>®</sup> 488 has a maximum emission of 519 nm when it is excited at 488 nm.</p> <p>Alexa Fluor<sup>®</sup> and Pacific Blue™ are trademarks of Life Technologies Corporation.</p> <p><a href="#">View full statement regarding label licenses</a></p>
<b>Excitation Laser</b>	Blue Laser (488 nm)
<b>Application Notes</b>	This clone is not recommended for ChIP (Chromatin Immunoprecipitation) assays (as determined by in-house testing).
<b>Product Citations</b>	<ol style="list-style-type: none"><li>Ceholski D, <i>et al.</i> 2017. Stem Cell Res. 10.1016/j.scr.2017.06.015. <a href="#">PubMed</a></li><li>Lin JR <i>et al.</i> 2018. eLife. 7 pii: e31657. <a href="#">PubMed</a></li><li>Chen G, <i>et al.</i> 2020. Stem Cell Research. 72.58402778. <a href="#">PubMed</a></li></ol>

4. Alexandrova S, *et al.* 2016. *Development*. 143: 24 - 34. [PubMed](#)
5. Coccini T, *et al.* 2022. *Curr Protoc*. 2:e423. [PubMed](#)

**RRID** AB\_2563956 (BioLegend Cat. No. 656109)  
AB\_2563957 (BioLegend Cat. No. 656110)

## Antigen Details

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<b>Structure</b>	317 amino acids, predicted molecular weight of 34 kD, contains a HMG box domain responsible for DNA binding
<b>Distribution</b>	Nucleus
<b>Function</b>	Transcription factor that regulates the expression of the genes involved in embryonic development
<b>Interaction</b>	Interacts with FGFR1, SOX3, and ZSCAN10
<b>Cell Type</b>	Embryonic Stem Cells, Mesenchymal Stem Cells, Neural Stem Cells
<b>Biology Area</b>	Cell Biology, Cell Cycle/DNA Replication, Immunology, Neuroscience, Neuroscience Cell Markers, Stem Cells, Transcription Factors
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Rizzino A. 2009. <i>Wiley Interdiscip. Rev. Syst. Biol. Med.</i> 1:228.</li><li>2. Stolzenburg S, <i>et al.</i> 2012. <i>Nucleic Acids Res.</i> 40:6725.</li><li>3. Lai YS, <i>et al.</i> 2012. <i>Proc. Natl. Acad. Sci. USA.</i> 109:3772.</li><li>4. Jeong CH, <i>et al.</i> 2010. <i>Stem Cells</i> 28:2141.</li><li>5. Xiang R, <i>et al.</i> 2011. <i>Br. J. Cancer</i> 104:1410.</li><li>6. Card DA, <i>et al.</i> 2008. <i>Mol. Cell Biol.</i> 28:6426.</li></ol>
<b>Gene ID</b>	<a href="#">6657</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

[Immunocytochemistry Staining Protocol](#)

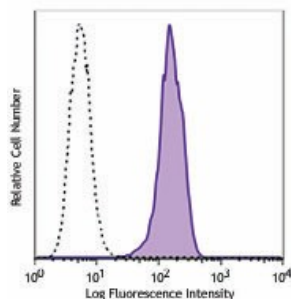
## Other Formats

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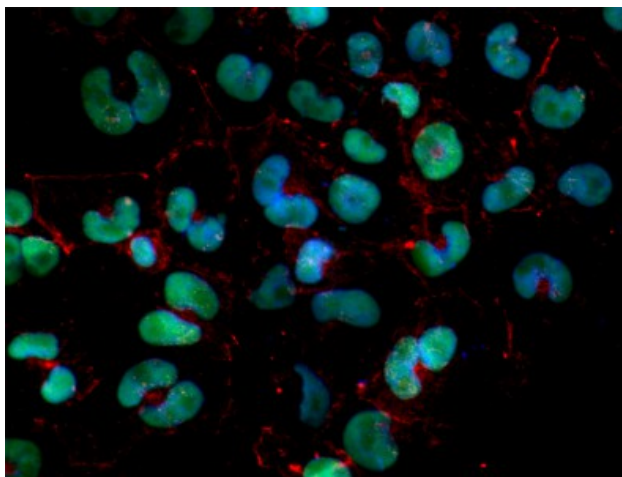
Purified anti-SOX2, PE anti-SOX2, Alexa Fluor® 594 anti-SOX2, Alexa Fluor® 488 anti-SOX2, Alexa Fluor® 647 anti-SOX2, Pacific Blue™ anti-SOX2, Brilliant Violet 421™ anti-SOX2

## Product Data

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Human embryonic carcinoma *NCCIT* cells were fixed and permeabilized with FOXP3 Fix/Perm Buffer Set, and then stained with SOX2 (clone 14A6A34) Alexa Fluor® 488 (filled histogram) or mouse IgG1, κ Alexa Fluor® 488 isotype control (open histogram).



*NCCIT* cells were fixed with 1% paraformaldehyde (PFA) for 10 minutes at 37°C, permeabilized with 0.5% Triton X-100 at room temperature for 10 minutes and blocked for 30 minutes at room temperature with 5% fetal bovine serum (FBS). Then the cells were stained with anti-human SOX2 (clone 14A6A34) Alexa Fluor® 488 (green) overnight, followed by Phalloidin Alexa Fluor® 594 (red) for 20 minutes at 4°C. The nuclei were counterstained with DAPI (blue). The image was captured with 40X objective.

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