# Alexa Fluor® 647 anti-SOX2 Antibody

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| **Catalog# / Size** | 656108 / 100 µg |
| **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 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. |

## Product Details

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| **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. |
| **Preparation** | The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions. |
| **Concentration** | 0.5 mg/ml |
| **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** | ICC - *Quality tested*<br>FC - *Verified* |
| **Recommended Usage** | Each lot of this antibody is quality control tested by immunocytochemistry. For immunocytochemistry, a concentration range of 1.0 - 5.0 µg/ml is recommended. For flow cytometric staining, the suggested use of this reagent is ≤ 0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.<br><br>* Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm.<br><br>Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.<br><br>View full statement regarding label licenses |
| **Excitation Laser** | Red Laser (633 nm) |
| **Application Notes** | This clone is not recommended for ChIP (Chromatin Immunoprecipitation) assays (as determined by in-house testing). |
| **Product Citations** | 1. Shrestha R, *et al.* 2020. Stem Cell Research. 41:101590.. PubMed<br>2. Shrestha R, *et al.* 2019. Cells. 8:. PubMed |
| **RRID** | AB_2563681 (BioLegend Cat. No. 656108) |

## Antigen Details

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| **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.<br>2. Stolzenburg S, *et al.* 2012. *Nucleic Acids Res.* 40:6725.<br>3. Lai YS, *et al.* 2012. *Proc. Natl. Acad. Sci. USA.* 109:3772.<br>4. Jeong CH, *et al.* 2010. *Stem Cells* 28:2141.<br>5. Xiang R, *et al.* 2011. *Br. J. Cancer* 104:1410.<br>6. Card DA, *et al.* 2008. *Mol. Cell Biol.* 28:6426. |
| **Gene ID** | 6657 |

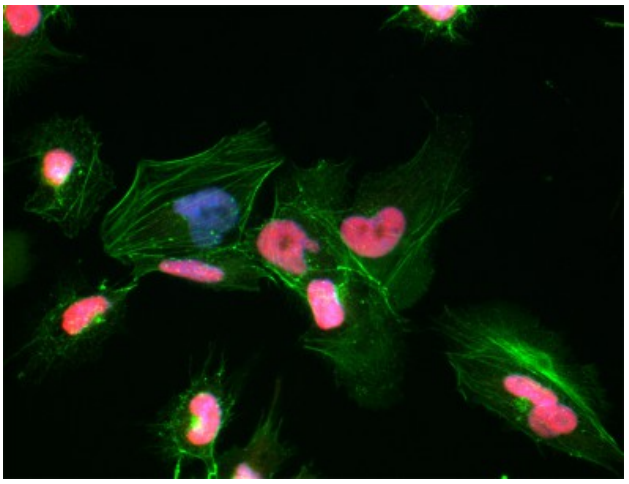
## Related Protocols

Immunocytochemistry Staining Protocol

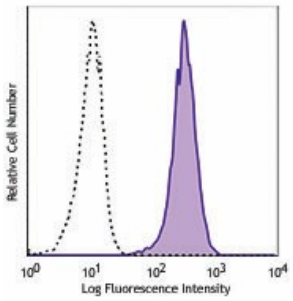
## Other Formats

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



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, blocked for 30 minutes at room temperature with 5% fetal bovine serum (FBS), then stained with anti-human SOX2 (clone 14A6A34) Alexa Fluor® 647 (red) overnight at 4°C. F-actin was stained with Phalloidin Alexa Fluor® 488 (green) and nuclei were counterstained with DAPI (blue).




Human embryonic carcinoma NCCIT cells were fixed and permeabilized with FOXP3 Fix/Perm Buffer Set, and then stained with SOX2 (clone 14A6A34) AF647 (filled histogram) or mouse IgG1, κ AF647 isotype control (open histogram).



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