

Brilliant Violet 421™ anti-SOX2 Antibody

Catalog# / Size	656114 / 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

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 Brilliant Violet 421™ under optimal conditions.
Concentration	0.2 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
Recommended Usage	<p>Each lot of this antibody is quality control tested by immunocytochemistry. For immunocytochemistry, a concentration range of 0.1 - 10 µg/ml is recommended. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.</p> <p>Learn more about Brilliant Violet™.</p> <p>This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.</p>
Excitation Laser	Violet Laser (405 nm)
Application Notes	This clone is not recommended for ChIP (Chromatin Immunoprecipitation) assays (as determined by in-house testing).
Product Citations	1. Yamasaki S, <i>et al.</i> 2022. iScience. 25:103657. PubMed

2. Matsuda M, *et al.* 2020. *Nature*. 124:580. [PubMed](#)
3. Shiba T, *et al.* 2019. *J Allergy Clin Immunol*. 144:1438. [PubMed](#)

RRID AB_2566262 (BioLegend Cat. No. 656114)

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	<ol style="list-style-type: none">1. Rizzino A. 2009. <i>Wiley Interdiscip. Rev. Syst. Biol. Med.</i> 1:228.2. Stolzenburg S, <i>et al.</i> 2012. <i>Nucleic Acids Res.</i> 40:6725.3. Lai YS, <i>et al.</i> 2012. <i>Proc. Natl. Acad. Sci. USA.</i> 109:3772.4. Jeong CH, <i>et al.</i> 2010. <i>Stem Cells</i> 28:2141.5. Xiang R, <i>et al.</i> 2011. <i>Br. J. Cancer</i> 104:1410.6. Card DA, <i>et al.</i> 2008. <i>Mol. Cell Biol.</i> 28:6426.
Gene ID	6657

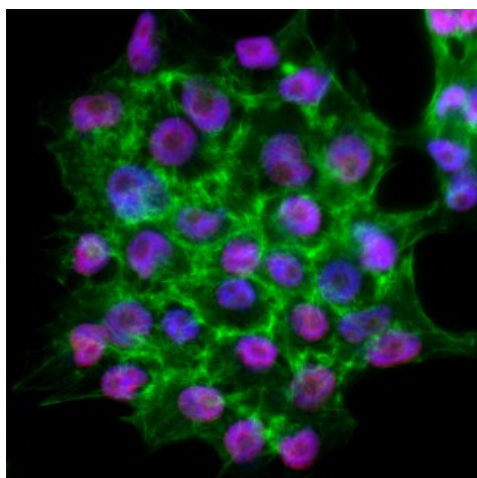
Related Protocols

[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 ten minutes, permeabilized with 0.5% Triton X-100 for ten minutes, and blocked with 5% FBS for 30 minutes. Then the cells were intracellularly stained with 5 µg/ml anti-SOX2 (clone 14A6A34) Brilliant Violet 421™ (blue) in 5% FBS for three hours, followed by Phalloidin Alexa Fluor® 488 (green) staining for 20 minutes. Nuclei were counterstained with DRAQ7 (red). The image was captured with a 40X objective.

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