# Product Datasheet

## SOX2 Antibody
## NB110-37235SS

Unit Size: 0.025 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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# NB110-37235SS

SOX2 Antibody

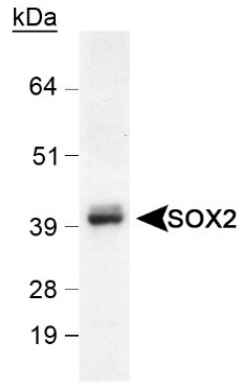
| Product Information | |
|---|---|
| **Unit Size** | 0.025 ml |
| **Concentration** | 1.46 mg/ml |
| **Storage** | Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles. |
| **Clonality** | Polyclonal |
| **Preservative** | 0.05% Sodium Azide |
| **Purity** | Immunogen affinity purified |
| **Buffer** | Tris-glycine, 150 mM NaCl |

| Product Description | |
|---|---|
| **Host** | Rabbit |
| **Gene ID** | 6657 |
| **Gene Symbol** | SOX2 |
| **Species** | Human, Mouse, Sheep |
| **Species Reactivity** | Human, sheep and mouse. 92% sequence identity with chicken, 86% sequence identity with Xenopus, and 71% sequence identity with Zebrafish proteins. |
| **Marker** | Embryonic Stem Cell Marker |
| **Immunogen** | A synthetic peptide made to the N-terminal region of human SOX2 protein (within residues 1-100). [Swiss-Prot# P48431] |

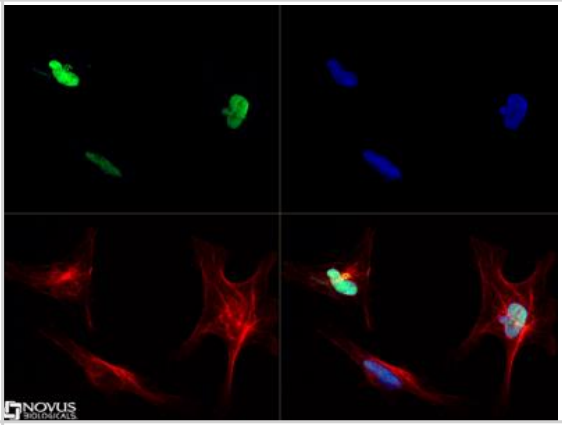
| Product Application Details | |
|---|---|
| **Applications** | Western Blot, Flow Cytometry, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin |
| **Recommended Dilutions** | Flow Cytometry 1:100, Immunocytochemistry/Immunofluorescence 1:50-1:250, Immunohistochemistry 1:125-1:250, Immunohistochemistry-Paraffin 1:125-1:250, Western Blot 0.5 ug/ml |
| **Application Notes** | This SOX2 antibody is useful for Flow Cytometry, Immunocytochemistry/Immunofluorescence, Immunohistochemistry paraffin embedded sections and Western Blot analysis, where a band is observed at ~40 kDa representing the SOX2 protein. |

## Images

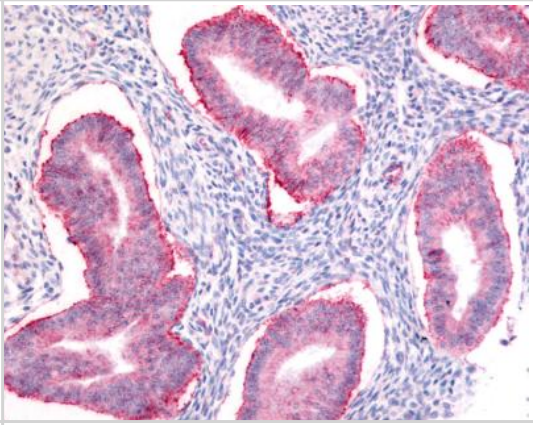
Western Blot: SOX2 Antibody [NB110-37235] - Detection of SOX2 in mouse brain lysate using NB110-37235 (0.5ug/ml).



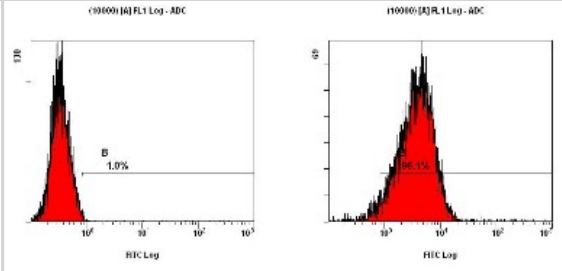

Immunocytochemistry/Immunofluorescence: SOX2 Antibody [NB110-37235] - ICC/IF staining of SOX2 in NTERA2 cells with Dylight 488 (Green). Alpha-tubulin and nuclei were counterstained with Dylight 550 (Red) and DAPI (Blue), respectively.



Immunohistochemistry-Paraffin: SOX2 Antibody [NB110-37235] - Staining of human uterus, endometrial glands.



Flow Cytometry: SOX2 Antibody [NB110-37235] - Staining of NTERA-2 cells using NB110-37235 at a 1:50 dilution detected using Dylight-488 conjugated goat anti-rabbit IgG secondary antibody.



## Publications

Wu S, Wu Y, Zhang X, Capecchi MR. Efficient germ-line transmission obtained with transgene-free induced pluripotent stem cells. Proc. Natl. Acad. Sci. U.S.A. 2014 Jul 22 [PMID: 25002522] (ICC/IF, Mouse)

Details:
SOX2 antibody used for ICC-IF on iPS cells (derived from MEFs of strain 129Sv) that were fixed in 4% paraformaldehyde 30 minutes RT. Fig. 2B - Staining of endogenous pluripotency genes (Oct4, Sox2, Nanog, and Ssea1) on transgene-free iPSZX11-18-2 cells demonstrating that the genes are active after the loss of pMaster12 vector.

Ghods AJ, Glick R, Braun D, Feinstein D. Beneficial actions of the anti-inflammatory dimethyl fumarate in glioblastomas. Surg Neurol Int 2013 Dec 24 [PMID: 24404403] (ICC/IF, Mouse, Human)

Grigoryan T, Stein S, Qi J et al. Wnt/Rspondin/beta-catenin signals control axonal sorting and lineage progression in Schwann cell development. Proc Natl Acad Sci U S A. 2013 Nov 5 [PMID: 24151333] (ICC/IF, Mouse)

Domyan ET, Ferretti E, Throckmorton K et al. Signaling through BMP receptors promotes respiratory identity in the foregut via repression of Sox2. Development;138(5):971-981. 2011 Mar. [PMID: 21303850] (IHC, ICC/IF, Mouse)

Yu S-C, Xiao H-L, Jiang X-F et al. Connexin 43 Reverses Malignant Phenotypes of Glioma Stem Cells by Modulating E-Cadherin. Stem Cells (Dayton, Ohio). 2011 Nov 30. [PMID: 22131169]

## Procedures

**Immunohistochemistry Protocol for SOX2 Antibody (NB110-37235)**
IHC-FFPE sections

I. Deparaffinization:

A. Treat slides with Xylene: 3 changes for 5 minutes each. Drain slides for 10 seconds between changes.
B. Treat slides with 100% Reagent Alcohol: 3 changes for 5 minutes each. Drain slides for 10 seconds between changes.

II. Quench Endogenous Peroxidase:

A. Place slides in peroxidase quenching solution: 15-30 minutes. To Prepare 200 ml of Quenching Solution: Add 3 ml of 30% Hydrogen Peroxide to 200 ml of Methanol.
Use within 4 hours of preparation
B. Place slides in distilled water: 2 changes for 2 minutes each.

III. Retrieve Epitopes:

A. Preheat Citrate Buffer. Place 200 ml of Citrate Buffer Working Solution into container, cover and place into steamer. Heat to 90-96 degrees Celsius.
B. Place rack of slides into hot Citrate Buffer for 20 minutes. Cover.
C. Carefully remove container with slides from steamer and cool on bench, uncovered, for 20 minutes.
D. Slowly add distilled water to further cool for 5 minutes.
E. Rinse slides with distilled water. 2 changes for 2 minutes each.

IV. Immunostaining Procedure:

A. Remove each slide from rack and circle tissue section with a hydrophobic barrier pen (e.g. Liquid Blocker-Super Pap Pen).
B. Flood slide with Wash Solution. Do not allow tissue sections to dry for the rest of the procedure.
C. Drain wash solution and apply 4 drops of Blocking Reagent to each slide and incubate for 15 minutes.
D. Drain Blocking Reagent (do not wash off the Blocking Reagent), apply 200 ul of Primary Antibody solution to each slide, and incubate for 1 hour.
E. Wash slides with Wash Solution: 3 changes for 5 minutes each.
F. Drain wash solution, apply 4 drops of Secondary antibody to each slide and incubate for 1 hour.
G. Wash slides with Wash Solution: 3 changes for 5 minutes each.
H. Drain wash solution, apply 4 drops of DAB Substrate to each slide and develop for 5-10 minutes. Check development with microscope.
I. Wash slides with Wash Solution: 3 changes for 5 minutes each.
J. Drain wash solution, apply 4 drops of Hematoxylin to each slide and stain for 1-3 minutes. Increase time if darker counterstaining is desired.
K. Wash slides with Wash Solution: 2-3 changes for 2 minutes each.
L. Drain wash solution and apply 4 drops of Bluing Solution to each slide for 1-2 minutes.
M. Rinse slides in distilled water.
N. Soak slides in 70% reagent alcohol: 3 minutes with intermittent agitation.
O. Soak slides in 95% reagent alcohol: 2 changes for 3 minutes each with intermittent agitation.
P. Soak slides in 100% reagent alcohol: 3 changes for 3 minutes each with intermittent agitation. Drain slides for 10 seconds between each change.
Q. Soak slides in Xylene: 3 changes for 3 minutes each with intermittent agitation. Drain slides for 10 seconds between each change.
R. Apply 2-3 drops of non-aqueous mounting media to each slide and mount coverslip.
S. Lay slides on a flat surface to dry prior to viewing under microscope.

NOTES:
-Use treated slides (e.g. HistoBond) to assure adherence of FFPE sections to slide.
-Prior to deparaffinization, heat slides overnight in a 60 degrees Celsius oven.

-All steps in which Xylene is used should be performed in a fume hood.

-For Epitope Retrieval, a microwave or pressure cooker may be substituted for the steamer method. Adjust times as necessary depending on conditions.

-For the initial IHC run with a new primary antibody, test tissues with and without Epitope Retrieval. In some instances, Epitope Retrieval may not be necessary.

-200 ul is the recommended maximum volume to apply to a slide for full coverage. Using more than 200 ul may allow solutions to wick off the slide and create drying artifacts. For small tissue sections less than 200 ul may be used.

-5 minutes of development with DAB Substrate should be sufficient. Do not develop for more than 10 minutes. If 5 minutes of development causes background staining, further dilution of the primary antibody may be necessary.

-Hematoxylin should produce a light nuclear counterstain so as not to obscure the DAB staining. Counterstain for 1-1.5 minutes for nuclear antigens. Counterstain for 2-3 minutes for cytoplasmic and membranous antigens. If darker counterstaining is desired increase time (up to 10 minutes).

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**Limitations**
This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

**For more information on our guarantee, please visit www.novusbio.com/guarantee.**