


Product datasheet

Anti-SOX2 antibody [20G5] α b171380

★★★★★ [1 Abreviews](#) [48 References](#) [8 Images](#)

Overview

Product name	Anti-SOX2 antibody [20G5]
Description	Mouse monoclonal [20G5] to SOX2
Host species	Mouse
Tested applications	Suitable for: IHC-P, IP, WB, Flow Cyt, ICC/IF
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Sheep, Chicken, Xenopus laevis, Zebrafish, Xenopus tropicalis 
Immunogen	Recombinant full length protein corresponding to Human SOX2 aa 1-317. Expressed in bacteria. Database link: 6657
Positive control	IHC-P: Human lung squamous carcinoma tissue. Mouse esophagus tissue. ICC/IF: H9 embryonic stem cells. HEL 11.4 induced IPS cells. IP: NCCIT whole cell lysate. WB: NCCIT and NTERRA cell lysate. Flow Cytometry: H9 embryonic stem cells. HEL 11.4 induced IPS cells.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 30% Glycerol, 0.1% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	20G5
Isotype	IgG1

Light chain type

kappa

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab171380 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★★ (1)	1/20 - 1/200.
IP		Use at 5 µg/mg of lysate.
WB		1/1000 - 1/2000. Predicted molecular weight: 34 kDa.
Flow Cyt		1/100. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
ICC/IF		1/200.

Target

Function

Transcription factor that forms a trimeric complex with OCT4 on DNA and controls the expression of a number of genes involved in embryonic development such as YES1, FGF4, UTF1 and ZFP206 (By similarity). Critical for early embryogenesis and for embryonic stem cell pluripotency.

Involvement in disease

Defects in SOX2 are the cause of microphthalmia syndromic type 3 (MCOPS3) [MIM:206900]. Microphthalmia is a clinically heterogeneous disorder of eye formation, ranging from small size of a single eye to complete bilateral absence of ocular tissues (anophthalmia). In many cases, microphthalmia/anophthalmia occurs in association with syndromes that include non-ocular abnormalities. MCOPS3 is characterized by the rare association of malformations including uni- or bilateral anophthalmia or microphthalmia, and esophageal atresia with trachoesophageal fistula.

Sequence similarities

Contains 1 HMG box DNA-binding domain.

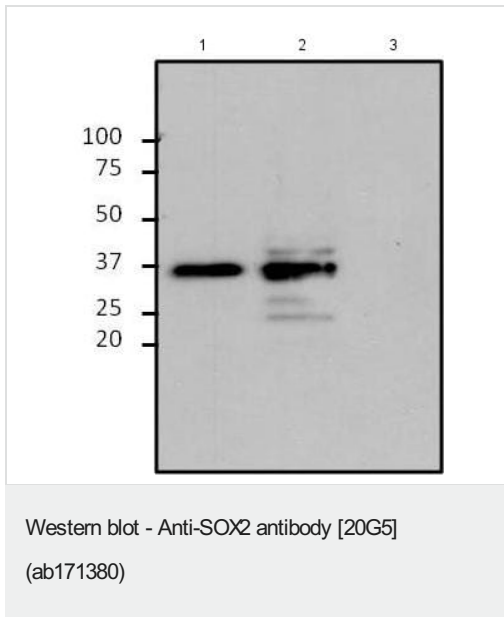
Post-translational modifications

Sumoylation inhibits binding on DNA and negatively regulates the FGF4 transactivation.

Cellular localization

Nucleus.

Images



All lanes : Anti-SOX2 antibody [20G5] (ab171380) at 1/500 dilution

Lane 1 : NCCIT (Human pluripotent embryonic carcinoma cell line) cell lysate

Lane 2 : NTERRA cell lysate

Lane 3 : HeLa (Human epithelial cell line from cervix adenocarcinoma) cell lysate

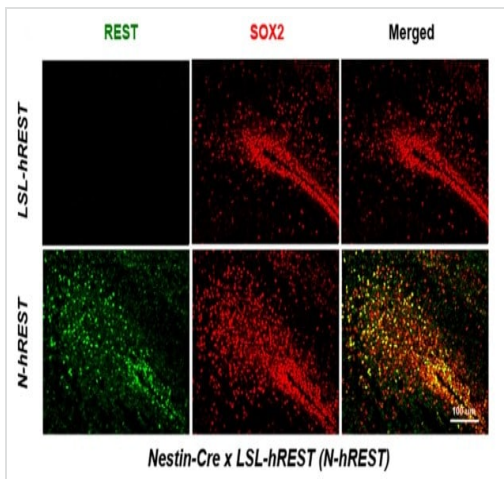
Lysates/proteins at 25 µg per lane.

Secondary

All lanes : mouse IgG-HRP at 1/10000 dilution

Developed using the ECL technique.

Predicted band size: 34 kDa

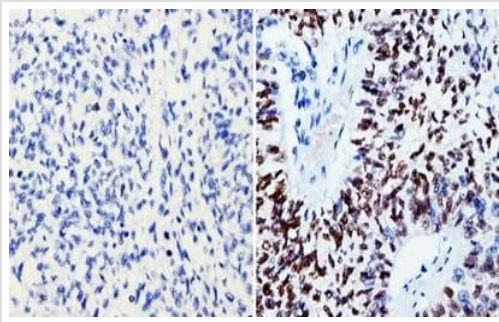


REST expression in *N-hREST* mouse brains correlates with stemness in embryonic neural stem cells. Immunofluorescence analysis of E18.5 *N-hREST* and *LSL-hREST* control littermate mouse brains with antibodies against REST (using an antibody that preferentially recognizes hREST over mouse REST) and SOX2 (using ab171380).

Mice were anesthetized and perfused with phosphate-buffered saline followed by 4% paraformaldehyde (PFA). Brain tissues were then dissected and fixed in 4% PFA overnight at 4 °C. Fixed brain tissues were processed for paraffin embedding and then cut into 5-µm sections.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [20G5] (ab171380)

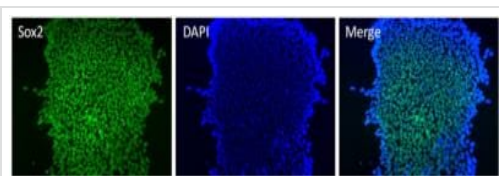
Image from Lu L. et al., Sci Rep. 2018 Aug 14;8(1):12083. Fig2c. doi: 10.1038/s41598-018-29441-3. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [20G5] (ab171380)

Immunohistochemistry analysis of SOX2 showing staining in the nucleus of paraffin-treated human lung squamous carcinoma (right) compared with a negative control without primary antibody (left).

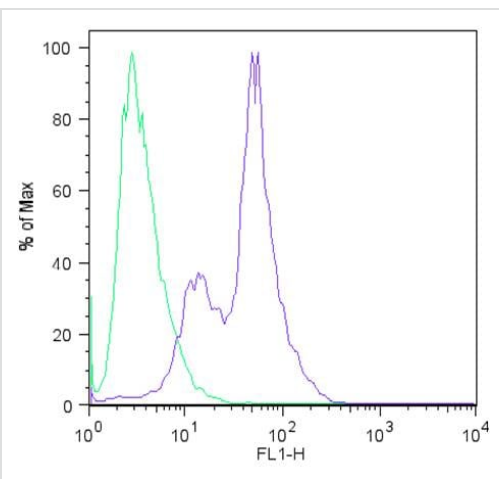
To expose target proteins, antigen retrieval was performed using 10 mM sodium citrate (pH 6.0), microwaved for 8-15 minutes. Following antigen retrieval, tissues were blocked in 3% H₂O₂-methanol for 15 minutes at room temperature, washed with ddH₂O and PBS, and then probed with a SOX2 monoclonal antibody (ab171380) diluted by 3% BSA-PBS at a dilution of 1:200 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



Immunocytochemistry/ Immunofluorescence - Anti-SOX2 antibody [20G5] (ab171380)

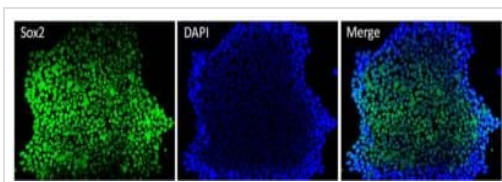
Immunofluorescence analysis of formaldehyde-fixed H9 embryonic stem cells, labeling SOX2 using ab171380 (left panel) at a 1/200 dilution overnight.

DAPI was used to stain the cell nuclei (central panel). Slides were washed with PBS and incubated with a fluorescein-conjugated secondary antibody at a 1/100 dilution.



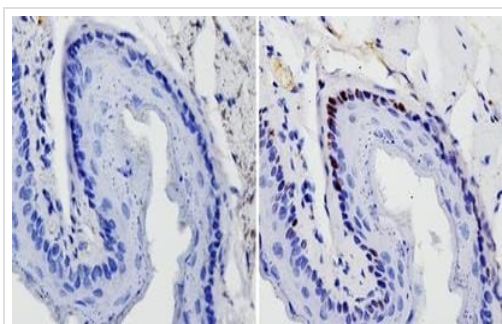
Flow Cytometry - Anti-SOX2 antibody [20G5] (ab171380)

Flow cytometry analysis of H9 embryonic stem cells labeling SOX2 (blue histogram), using ab171380 at a 1/100 dilution, or a mouse IgG (green histogram) at a 1/100 dilution. A fluorescein-conjugated secondary antibody at a 1/200 dilution was used for the analysis.



Immunocytochemistry/ Immunofluorescence - Anti-SOX2 antibody [20G5] (ab171380)

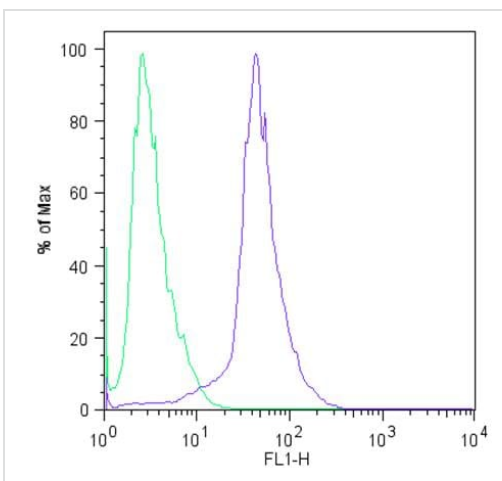
Immunofluorescence analysis of formaldehyde-fixed HEL 11.4 induced IPS cells, labeling SOX2 using ab171380 (left panel) at a 1/200 dilution overnight. DAPI was used to stain the cell nuclei (central panel). Slides were washed with PBS and incubated with a fluorescein-conjugated secondary antibody at a 1/100 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [20G5] (ab171380)

Immunohistochemistry analysis of SOX2 showing staining in the nucleus of paraffin-treated mouse esophagus tissue (right) compared with a negative control without primary antibody (left).

To expose target proteins, antigen retrieval was performed using 10 mM sodium citrate (pH 6.0), microwaved for 8-15 minutes. Following antigen retrieval, tissues were blocked in 3% H₂O₂-methanol for 15 minutes at room temperature, washed with ddH₂O and PBS, and then probed with a SOX2 monoclonal antibody (ab171380) diluted by 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



Flow Cytometry - Anti-SOX2 antibody [20G5] (ab171380)

Flow cytometry analysis of HEL 11.4 induced IPS cells labeling SOX2 (blue histogram), using ab171380 at a 1/100 dilution, or a mouse IgG (green histogram) at a 1/100 dilution. A fluorescein-conjugated secondary antibody at a 1/200 dilution was used for the analysis.

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