abcam

ab171380

Anti-SOX2 antibody [20G5]

Anti-SOX2 antibody [20G5] (ab171380) is a mouse monoclonal antibody detecting SOX2 in **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse**.

- Over 50 publications

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Mouse Sox2. Database link P48432
Clone number	20G5
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Expected

Species	Human

Dilution info	5 µg/mg of lysate
Notes	-

Predicted

Species	Mouse, Sheep, Chicken
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/100
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Sheep, Chicken
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/2000

Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Sheep, Chicken
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/20 - 1/200
Notes	-

Species	Human
Dilution info	1/20 - 1/200
Notes	-

Predicted

Species	Sheep, Chicken
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human

Dilution info	1/200
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Sheep, Chicken
Dilution info	-
Notes	-

Target data

See full target information SOX2

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). Binds to the proximal enhancer region of NANOG (By similarity). Critical for early embryogenesis and for embryonic stem cell pluripotency (PubMed:18035408). Downstream SRRT target that mediates the promotion of neural stem cell self-renewal (By similarity). Keeps neural cells undifferentiated by counteracting the activity of proneural proteins and suppresses neuronal differentiation (By similarity). May function as a switch in neuronal development (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-SOX2 antibody [20G5] (ab171380) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse samples.

What is the molecular weight of SOX2?
Anti-SOX2 [20G5] (ab171380) specifically detects a band for SOX2 (UniProt: P48431) at a molecular weight of 34kDa.

Trusted by the scientific community
Anti-SOX2 [20G5] (ab171380) was first used in a scientific publication in 2013 and has been cited over 50 times in peer-reviewed journals.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

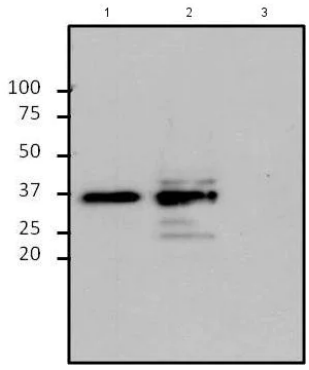
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

9 product images



Western blot - Anti-SOX2 antibody [20G5] (ab171380)

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

Lane 1:
NCCIT (Human pluripotent embryonic carcinoma cell line) cell lysate at 25 µg

Lane 2:
NTERRA cell lysate at 25 µg

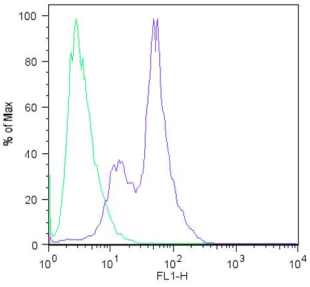
Lane 3:
HeLa (Human epithelial cell line from cervix adenocarcinoma) cell lysate at 25 µg

Secondary

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

Developed using the ECL technique.

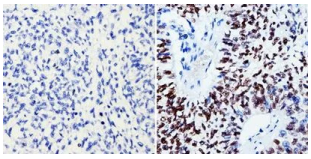
Predicted band size: 34 kDa



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

SOX2 Flow Cytometry staining using mouse Anti-SOX2 antibody

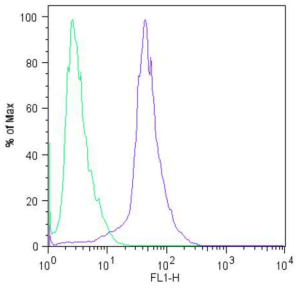
Flow cytometry analysis of H9 embryonic stem cells labeling SOX2 (blue histogram), using ab171380 at a 1/100 dilution, or a mouse IgG (green histogram) at a 1/100 dilution. A fluorescein-conjugated secondary antibody at a 1/200 dilution was used for the analysis.



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

SOX2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-SOX2 antibody

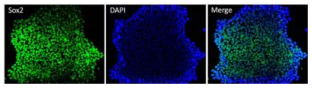
Immunohistochemistry analysis of SOX2 showing staining in the nucleus of paraffin-treated human lung squamous carcinoma (right) compared with a negative control without primary antibody (left).
To expose target proteins, antigen retrieval was performed using 10 mM sodium citrate (pH 6.0), microwaved for 8-15 minutes. Following antigen retrieval, tissues were blocked in 3% H_2O_2-methanol for 15 minutes at room temperature, washed with ddH_2O 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.



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

SOX2 Flow Cytometry staining using mouse Anti-SOX2 antibody

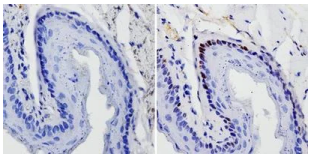
Flow cytometry analysis of HEL 11.4 induced IPS cells labeling SOX2 (blue histogram), using ab171380 at a 1/100 dilution, or a mouse IgG (green histogram) at a 1/100 dilution. A fluorescein-conjugated secondary antibody at a 1/200 dilution was used for the analysis.



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

SOX2 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-SOX2 antibody

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)

SOX2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-SOX2 antibody

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% H_2O_2-methanol for 15 minutes at room temperature, washed with ddH_2O 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.

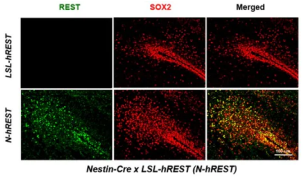


Image from Lu L. et al., Sci Rep. 2018 Aug 14;8(1):12083. Fig2c. doi: 10.1038/s41598-018-29441-3. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/.

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

SOX2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-SOX2 antibody

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.

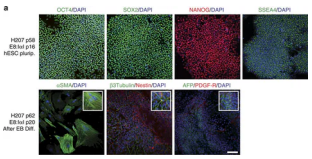


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Immunocytochemistry - Anti-SOX2 antibody [20G5] (ab171380)

SOX2 Immunocytochemistry staining using mouse Anti-SOX2 antibody

Immunocytochemistry using Anti-SOX2 antibody [20G5], ab171380. Publication image from Annerén, C. et al., 2016, Nat Commun, 27405751. Legend direct from paper.

IαI maintains pluripotency and differentiation capacity in long-term culture.Immunofluorescence staining of H207 hES cell line for (a) stem cell markers Oct4 (green), Sox2 (green), Nanog (red) and SSEA-4 (green) after 16 passages in E8:IαI, and for the three germ layers after 4 weeks of differentiation through embryoid body (EB) formation: mesoderm with alpha smooth muscle actin (SMA, green), ectoderm with Nestin (red) and β-III-tubulin (green) and endoderm with alpha-fetoprotein (AFP, green) and PDGF-receptor (red), and (b) after endoderm directed differentiation for endoderm markers Sox7 (red), Sox17 (green) and HNF3β (green) and stem cell markers Oct4 (green) and Nanog (red), as well as negative control with secondary antibodies. All samples were co-stained with DAPI (Blue) for nuclei detection. Scale bars show 100 µm, white boxes show close-up images.

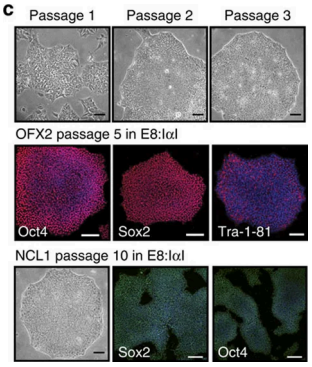


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Immunocytochemistry - Anti-SOX2 antibody [20G5] (ab171380)

SOX2 Immunocytochemistry staining using mouse Anti-SOX2 antibody

Immunocytochemistry using Anti-SOX2 antibody [20G5], ab171380. Publication image from Annerén, C. et al., 2016, Nat Commun, 27405751. Legend direct from paper.

IαI achieves high-adaptation efficiency of feeder-dependent hPS cell lines.(a) Step-wise adaptation sequence for feeder-dependent hPS cell lines to E8:IαI and E8:VN (b) Crystal violet staining and quantification of OXF2 cell survival and growth 4 days after adaptation to E8:IαI or E8:VN, right panel shows representative images. (c) Colony morphology and immunofluorescence staining of stem cell factors Oct4, Nanog and Tra-1-81 of OXF2 after adaptation of hES cell lines OXF2 and NCL1 from feeders and serum-containing medium to E8:IαI. Scale bars show 100 µm. All cell-number quantification experiments were performed in triplicate over three separate experiments. Bars show mean±s.e.m. and statistical analysis shows significant difference with *P<0.05, **P<0.001 and ***P<0.001 (determined by One-way ANOVA and Dunnett's post-test) in comparison to E8:VN values.

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