abcam

Product datasheet

Anti-SOX2 antibody [EPR3131] ab92494

Recombinant RabMAb

23 Abreviews 196 References 23 Images

Overview

Product name	Anti-SOX2 antibody [EPR3131]
Description	Rabbit monoclonal [EPR3131] to SOX2
Host species	Rabbit
Specificity	The Rat recommendation is based on the ICC results. WB signal in rat samples are very weak. We do not guarantee WB for Rat.
Tested applications	**Suitable for:** WB, IHC - Wholemount, Sandwich ELISA, IHC-P, ICC/IF **Unsuitable for:** Flow Cyt or IP
Species reactivity	**Reacts with:** Mouse, Rat, Human, Leucoraja erinacea
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: NCCIT, F9, MCF-7 and C6 cell lysates; Human glioma lysate. IHC-P: Human gliocytoma, breast carcinoma, fetal stomach, fetal lung and embryonal carcinoma tissues; Sagittal maxillary incisor sections from E12, E13, E14, and E15 mouse embryos. ICC/IF: F9 and NCCIT cells; Mouse neuromesodermal progenitors. IHC-Wm: Leucoraja erinacea embryo; mouse blastocyst.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

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. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA

Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR3131
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab92494 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
WB	★★★★☆ **(8)**	1/1000 - 1/2000. Detects a band of approximately 35 kDa (predicted molecular weight: 34 kDa).
IHC - Wholemount	★★★★★ **(3)**	Use at an assay dependent concentration.
Sandwich ELISA		Use a concentration of 0.5 µg/ml. For sandwich ELISA, use this antibody as Detection at 0.5 µg/ml with Rabbit monoclonal [EPR3131] to SOX2 (ab92494) as Capture.
IHC-P	★★★★☆ **(3)**	1/100. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**. **For unpurified use at 1/60.**
ICC/IF	★★★★★ **(3)**	1/100.

Application notes Is unsuitable for Flow Cyt or IP.

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.

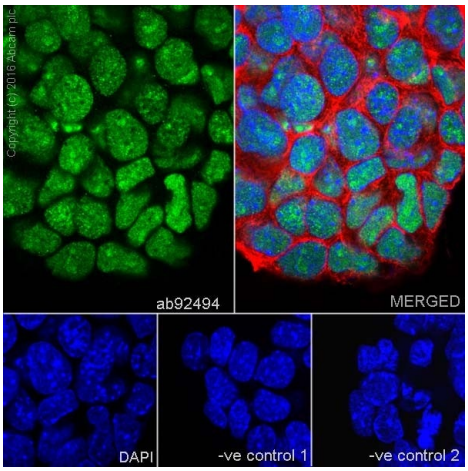
Involvement in disease Defects in SOX2 are the cause of microphthalmia syndromic type 3 (MCOPS3) [MIM:206900]. Microphthalmia is a clinically heterogeneous disorder of eye formation, ranging from small size of a single eye to complete bilateral absence of ocular tissues (anophthalmia). In many cases, 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



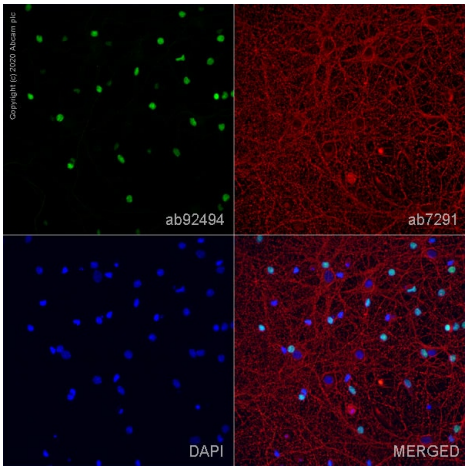
Immunocytochemistry/ Immunofluorescence - Anti-SOX2 antibody [EPR3131] (ab92494)

Confocal image showing nuclear staining on F9 cells

Ab92494 staining SOX2 in the F9 (mouse embryonal carcinoma) cell line by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% PFA, permeabilized with 0.1% Triton-X. Samples were incubated with primary antibody (1/200). An Alexa Fluor® 488-conjugated Goat anti-Rabbit IgG, Ab150077 (1/1000) was used as the secondary antibody. Counterstained with Ab7291 anti-Tubulin (1/1000), Ab150120 AlexaFluor®594 Goat anti-Mouse secondary (1/1000). DAPI was used as a nuclear counter stain.

Negative control 1 Ab92494 was used as the primary antibody at 1/200 and Ab150120 was used as the secondary at 1/1000.

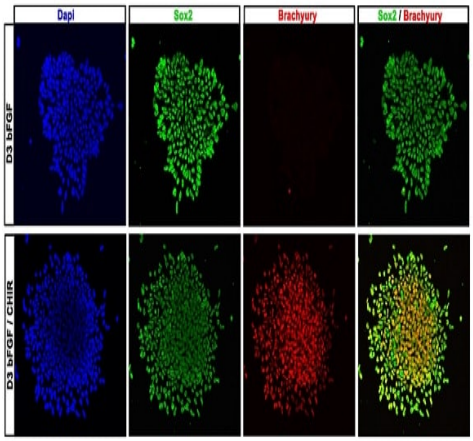
Negative control 2 Ab7291was used as the primary antibody at 1/1000 and Ab150077 was used as the secondary at 1/1000.



Immunocytochemistry/ Immunofluorescence - Anti-SOX2 antibody [EPR3131] (ab92494)

ab92494 staining SOX2 in primary hippocampal rat neurons/glia, (obtained from Neuromics, cat. no. PC35101), DIV14. The cells were fixed with 4% paraformaldehyde (10 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab92494 at 1/100 dilution and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

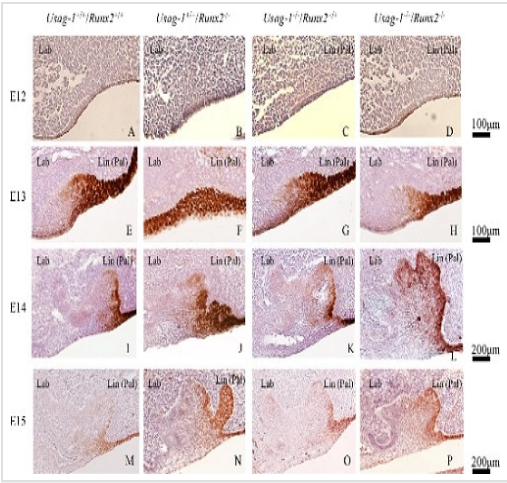
Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Transient Wnt and FGF signalling induce dual fated mouse neuromesodermal progenitors.

Immunostaining of cells treated with FGF/Wnt revealed the coexpression of Brachyury with Sox2 (NMPs). In the absence of Wnt, NPCs express Sox2 but the expression of Brachyury is only evident in a very small proportion of cells.

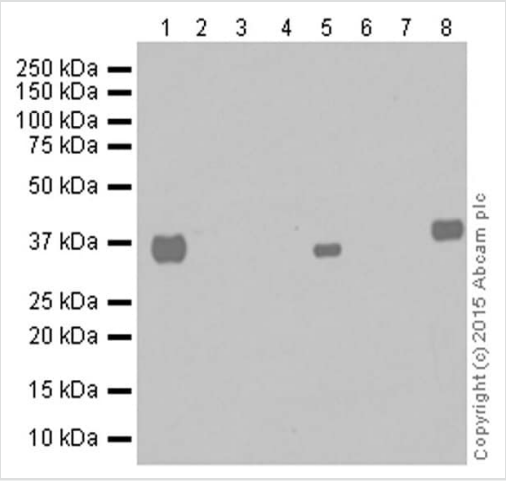
Immunocytochemistry/ Immunofluorescence - Anti-SOX2 antibody [EPR3131] (ab92494)



SOX2 immunostaining in sagittal maxillary incisor sections from E12 (A-D), E13 (E-H), E14 (I-L), and E15 (M-P) embryos.

At E13, strong SOX2 staining was seen in the lingual region of the epithelial dental lamina in all mice (E, G & H) except for the *Usag-1*$^{+/+}$/*Runx2*$^{-/-}$ mice, in which SOX2 was found throughout the dental lamina (F). At E15, strong SOX2 staining was seen in the additional lingual bud in the *Usag-1*$^{+/+}$/*Runx2*$^{-/-}$ mice (N).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)



Western blot - Anti-SOX2 antibody [EPR3131] (ab92494)

All lanes : Anti-SOX2 antibody [EPR3131] (ab92494) at 1/1000 dilution

Lane 1 : NCCIT (human pluripotent embryonic carcinoma cell line) whole cell lysate
Lane 2 : PC-3 (human prostate adenocarcinoma cell line) whole cell lysate
Lane 3 : SK-OV-3 (human ovarian cancer cell line) whole cell lysate
Lane 4 : U-2 OS (human bone osteosarcoma epithelial cell line) whole cell lysate
Lane 5 : MCF7 (human breast adenocarcinoma cell line) whole cell lysate
Lane 6 : HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate
Lane 7 : Human breast cancer tissue lysate
Lane 8 : Human glioma lysate

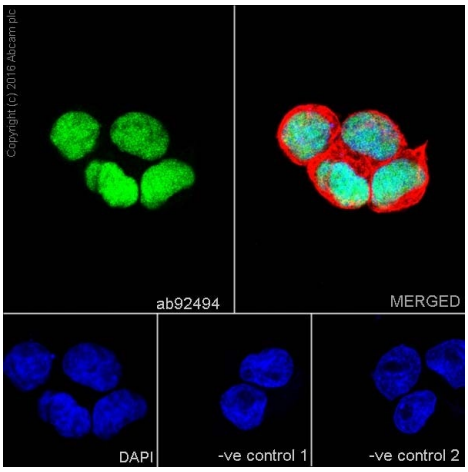
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 34 kDa
Observed band size: 34 kDa

Exposure time: 3 minutes

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST



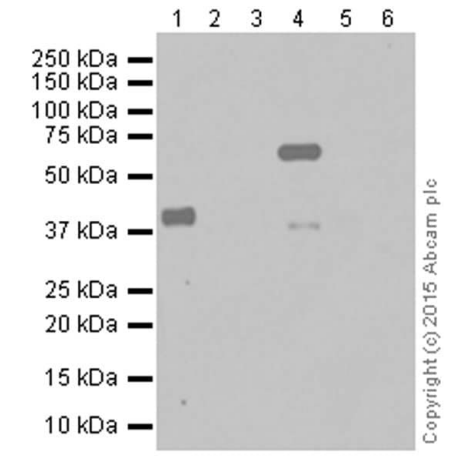
Immunocytochemistry/ Immunofluorescence - Anti-SOX2 antibody [EPR3131] (ab92494)

Confocal image showing nuclear staining on NCCIT cells

Ab92494 staining SOX2 in NCCIT cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% PFA, permeabilized with 0.1% Triton-X. Samples were incubated with primary antibody (1/200). An Alexa Fluor® 488-conjugated Goat anti-Rabbit IgG, Ab150077 (1/1000) was used as the secondary antibody. Counterstained with Ab7291 anti-Tubulin (1/1000), Ab150120 AlexaFluor®594 Goat anti-Mouse secondary (1/1000). DAPI was used as a nuclear counter stain.

Negative control 1 Ab92494 was used as the primary antibody at 1/200 and Ab150120 was used as the secondary at 1/1000.

Negative control 2 Ab7291was used as the primary antibody at 1/1000 and Ab150077 was used as the secondary at 1/1000.



Western blot - Anti-SOX2 antibody [EPR3131] (ab92494)

All lanes : Anti-SOX2 antibody [EPR3131] (ab92494) at 1/1000 dilution

Lane 1 : F9 (mouse embryonic testicular cancer cell line) whole cell lysate
Lane 2 : 4T1 (mouse mammary gland carcinoma cell line) whole cell lysate
Lane 3 : Mouse hippocampus lysate
Lane 4 : C6 (rat glial tumor cell line) whole cell lysate
Lane 5 : Rat hippocampus lysate
Lane 6 : Rat spinal cord lysate

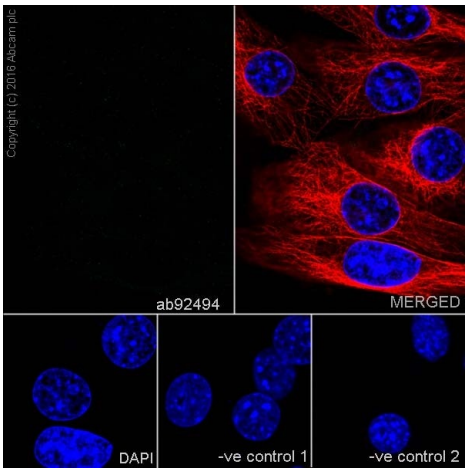
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 34 kDa
Observed band size: 34 kDa

Exposure time: 3 minutes

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST



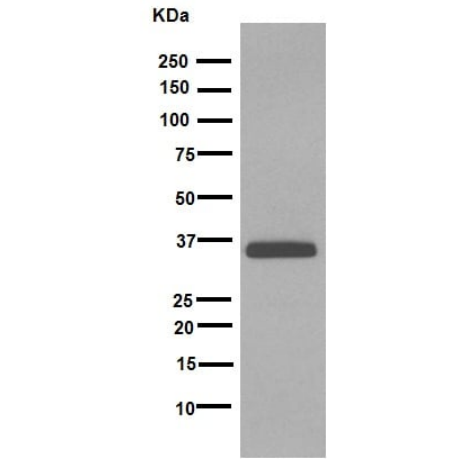
Immunocytochemistry/ Immunofluorescence - Anti-SOX2 antibody [EPR3131] (ab92494)

Confocal image showing negative staining on NIH/3T3 cells.

Ab92494 staining SOX2 in the NIH/3T3 (mouse embryonic fibroblast cell line) (negative control) cell line by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% PFA, permeabilized with 0.1% Triton-X. Samples were incubated with primary antibody (1/200). An Alexa Fluor® 488-conjugated Goat anti-Rabbit IgG, **ab150077** (1/1000) was used as the secondary antibody. Counterstained with **ab7291** anti-Tubulin (1/1000), Ab150120 Alexa Fluor® 594 Goat anti-Mouse secondary (1/1000). DAPI was used as a nuclear counter stain.

Negative control 1: ab92494 was used as the primary antibody at 1/200 and **ab150120** was used as the secondary at 1/1000.

Negative control 2: **ab7291**was used as the primary antibody at 1/1000 and **ab150077** was used as the secondary at 1/1000.



Western blot - Anti-SOX2 antibody [EPR3131] (ab92494)

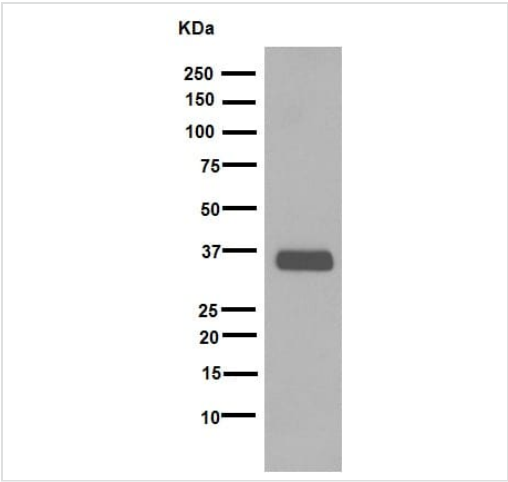
Anti-SOX2 antibody [EPR3131] (ab92494) at 1/1000 dilution (unpurified) + NCCIT (human pluripotent embryonic carcinoma cell line) cell lysate at 10 µg

Secondary
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 34 kDa
Observed band size: 34 kDa

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.



Western blot - Anti-SOX2 antibody [EPR3131] (ab92494)

Anti-SOX2 antibody [EPR3131] (ab92494) at 1/1500 dilution (purified) + F9 (mouse embryonic testicular cancer cell line) cell lysate at 10 µg

Secondary

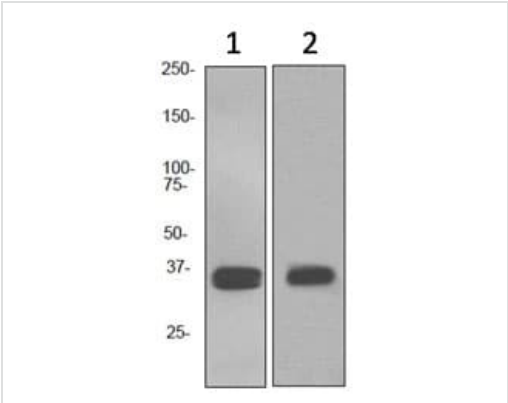
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 34 kDa

Observed band size: 34 kDa

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.



Western blot - Anti-SOX2 antibody [EPR3131] (ab92494)

All lanes : Anti-SOX2 antibody [EPR3131] (ab92494) at 1/5000 dilution (unpurified)

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

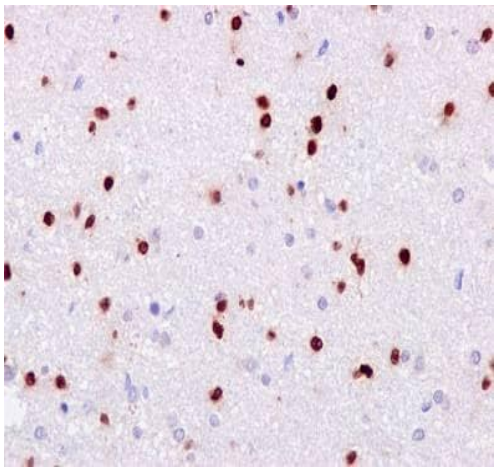
Lane 2 : MCF-7 (human breast adenocarcinoma cell line) cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

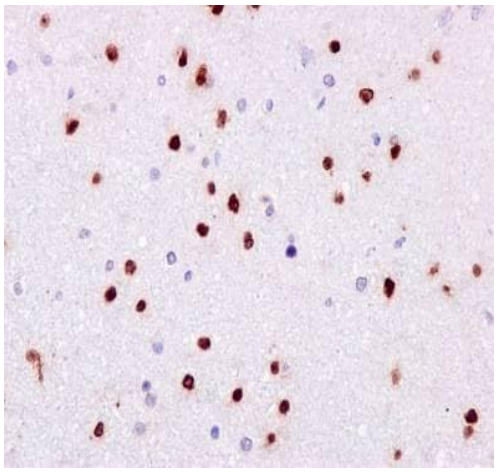
All lanes : HRP-conjugated goat anti-rabbit IgG at 1/2000 dilution

Predicted band size: 34 kDa



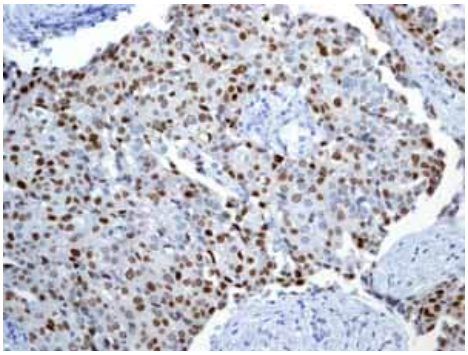
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human gliocytoma tissue labelling SOX2 with unpurified ab92494 at 1/60. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Counterstained with Hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)

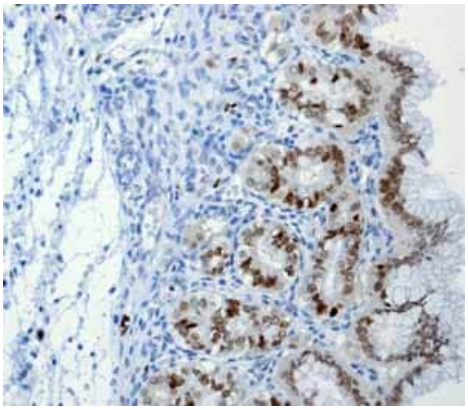
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human gliocytoma tissue labelling SOX2 with purified ab92494 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Counterstained with Hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue labelling SOX2 with unpurified ab92494.

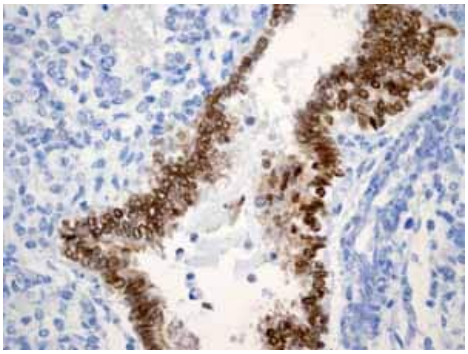
Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human fetal stomach tissue labelling SOX2 with unpurified ab92494.

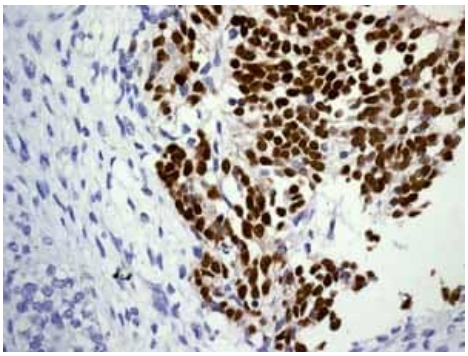
Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human fetal lung tissue labelling SOX2 with unpurified ab92494.

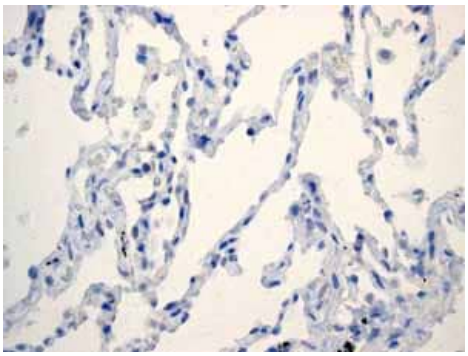
Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human embryonal carcinoma tissue labelling SOX2 with unpurified ab92494.

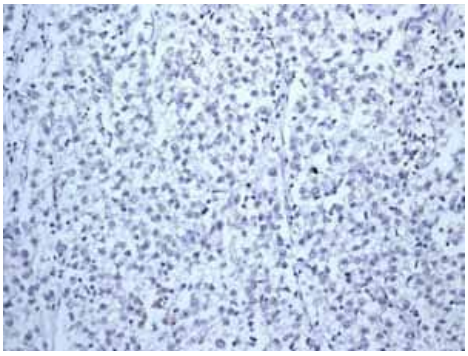
Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)

Immunohistochemistry (Formalin/PFA-fixed parffin-embedded sections) analysis of normal human lung tissue. Unpurified ab92494 shows negative staining.

Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX2 antibody [EPR3131] (ab92494)

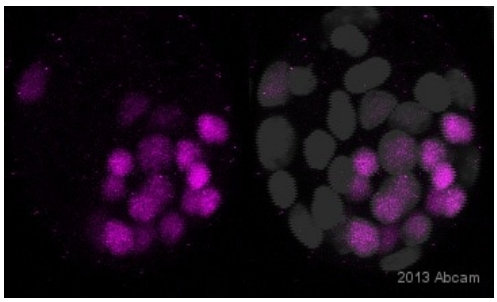
Negative control: Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of negative human seminoma tissue using unpurified ab92494.

Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.

IHC - Wholemount - Anti-SOX2 antibody [EPR3131] (ab92494)

Image courtesy of Dr. Gillis, Dalhousie University, Canada.

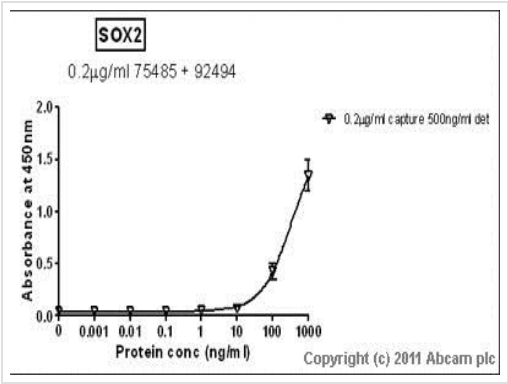
IHC - Wholemount analysis of Leucoraja erinacea embryo labelling SOX2 with unpurified ab92494 at 1/200. The sample was incubated with the primary antibody for 48 hours at 4°C in 10% fetal calf serum in PBT. Detection: DAB.



IHC - Wholemount - Anti-SOX2 antibody [EPR3131] (ab92494)

This image is courtesy of an anonymous Abreview.

IHC - Wholemount analysis of mouse blastocyst labelling SOX2 (pink) with unpurified ab92494 at 1/200. The sample was incubated with the primary antibody for 48 hours at 4°C. Nuclei stained with DAPI (grey).



Sandwich ELISA - Anti-SOX2 antibody [EPR3131] (ab92494)

Standard Curve for SOX2 (Analyte: SOX2 protein (Human) (**ab79950**)); dilution range 1pg/ml to 1µg/ml using Capture Antibody Mouse monoclonal [57CT23.3.4] to SOX2 (**ab75485**) at 0.2µg/ml and Detector Antibody Rabbit monoclonal [EPR3131] to SOX2 (ab92494) at 0.5µg/ml.

Anti-SOX2 antibody [EPR3131] (ab92494)

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