abcam

ab196450

Alexa Fluor® 488 Anti-SOX9 antibody [EPR14335]

Anti-SOX9 antibody [EPR14335] - Alexa Fluor® 488 conjugated (ab196450) is a rabbit recombinant monoclonal antibody detecting SOX9 in **Flow Cytometry (Intra), ICC/IF**. Suitable for **Human, Mouse**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR14335
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/200
Notes	This product gave a positive signal in SW480 cells fixed with 4% formaldehyde (10 min)

Species	Mouse
Dilution info	1/200
Notes	This product gave a positive signal in SW480 cells fixed with 4% formaldehyde (10 min)

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

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

IHC-P

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Target data

See full target information Transcription factor SOX-9

Function	Transcription factor that plays a key role in chondrocytes differentiation and skeletal development (PubMed:24038782). Specifically binds the 5'-ACAAAG-3' DNA motif present in enhancers and super-enhancers and promotes expression of genes important for chondrogenesis, including cartilage matrix protein-coding genes COL2A1, COL4A2, COL9A1, COL11A2 and ACAN, SOX5 and SOX6 (PubMed:8640233). Also binds to some promoter regions (By similarity). Plays a central role in successive steps of chondrocyte differentiation (By similarity). Absolutely required for precartilaginous condensation, the first step in chondrogenesis during which skeletal progenitors differentiate into prechondrocytes (By similarity). Together with SOX5 and SOX6, required for overt chondrogenesis when condensed prechondrocytes differentiate into early stage chondrocytes, the second step in chondrogenesis (By similarity). Later, required to direct hypertrophic maturation and block osteoblast differentiation of growth plate chondrocytes: maintains chondrocyte columnar proliferation, delays prehypertrophy and then prevents osteoblastic differentiation of chondrocytes by lowering beta-catenin (CTNNB1) signaling and RUNX2 expression (By similarity). Also required for chondrocyte hypertrophy, both indirectly, by keeping the lineage fate of chondrocytes, and directly, by remaining present in upper hypertrophic cells and transactivating COL10A1 along with MEF2C (By similarity). Low lipid levels are the main nutritional determinant for chondrogenic commitment of skeletal progenitor cells: when lipids levels are low, FOXO (FOXO1 and FOXO3) transcription factors promote expression of SOX9, which induces chondrogenic commitment and suppresses fatty acid oxidation (By similarity). Mechanistically, helps, but is not required, to remove epigenetic signatures of transcriptional repression and deposit active promoter and enhancer marks at chondrocyte-specific genes (By similarity). Acts in cooperation with the Hedgehog pathway-dependent GLI (GLI1 and GLI3) transcription factors (By similarity). In addition to cartilage development, also acts as a regulator of proliferation and differentiation in epithelial stem/progenitor cells: involved in the lung epithelium during branching morphogenesis, by balancing proliferation and differentiation and regulating the extracellular matrix (By similarity). Controls epithelial branching during kidney 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, Store in the dark

Notes

What is this antibody validated in?
Alexa Fluor® 488 Anti-SOX9 antibody [EPR14335] (ab196450) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Intra), Flow Cytometry (Flow Cyt), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse samples.

Related products
Antibody clone EPR14335 is also available pre-conjugated to a variety of labels for your convenience – Anti-SOX9 Alexa Fluor® 488 [EPR14335] (ab196450).

Other related products
We have a range of other formats of antibody clone [EPR14335] also available for your convenience: ab185230, Alexa Fluor® 647 - ab196184, Alexa Fluor® 488 - ab196450, Alexa Fluor® 555 - ab202516, Alexa Fluor® 594 - ab202517, Carrier free - ab220812

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

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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.

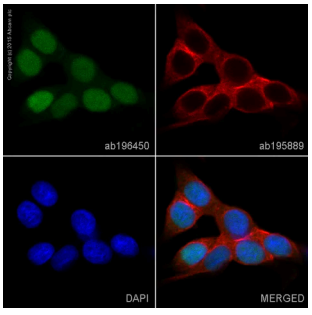
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
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4 product images

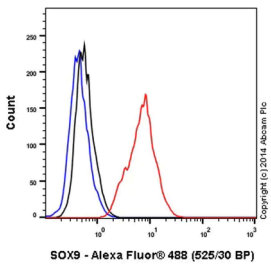


Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-SOX9 antibody [EPR14335] (ab196450)

SOX9 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SOX9 antibody

ab196450 staining SOX9 in SW480 cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% 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 ab196450 at 1/200 dilution (shown in green) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

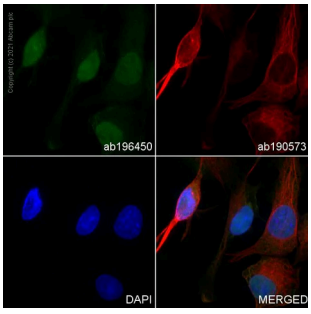


Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-SOX9 antibody [EPR14335] (ab196450)

SOX9 Flow Cytometry (Intracellular) staining using rabbit Anti-SOX9 antibody

Overlay histogram showing SW480 cells stained with ab196450 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab196450, 1/50 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 488 used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

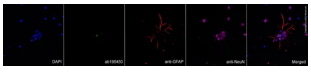
This antibody gave a positive signal in SW480 fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-SOX9 antibody [EPR14335] (ab196450)

SOX9 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SOX9 antibody

ab196450 staining SOX9 in HepG2 cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% 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 ab196450 at 1/50 dilution (shown in green) and ab190573, Rabbit monoclonal to alpha Tubulin (Alexa Fluor® 647), at 1/1000 dilution (shown in 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.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-SOX9 antibody [EPR14335] (ab196450)

SOX9 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SOX9 antibody

Immunofluorescence staining of SOX9 using ab196450 in primary hippocampal mouse neurons/glia (obtained from Transnetyx Tissue by BrainBits LLC cat.no. C57EHP) DIV14. The cells were fixed with 4% formaldehyde (10 min) permeabilized with 0.1% TritonX-100 (in PBS) for 5 mins 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 ab196450 at 1 µg/ml (shown in green), ab4674 (anti-GFAP) at 1/1000 dilution and ab104224 (anti-NeuN) at 1/1000 dilution. Cells were then incubated with ab150176 Goat Anti-Chicken IgY H&L (Alexa Fluor® 594) preadsorbed (shown in red) and ab150119 Goat Anti-Mouse IgG H&L (Alexa Fluor® 647) (shown in purple) all secondary antibodies at 1/1000 dilution. Nuclear DNA was labelled with DAPI (shown in blue).
As expected most GFAP positive cells are also SOX9 positive while NeuN positive cells are SOX9 negative.
Images were acquired with the Perkin Elmer Operetta HCA and a maximum intensity projection of confocal sections is shown.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.