abcam

ab182579

Anti-SOX9 antibody [EPR12755]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR12755
Purification technique	Affinity purification Protein A
Concentration	0.482 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/20 - 1/80
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
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	Conditional Ambient
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

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.

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

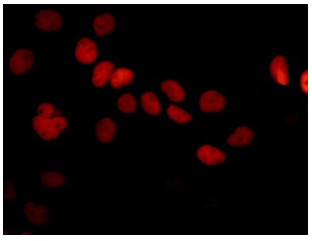
We do not recommend this combination. It is not covered by our product promise.

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.

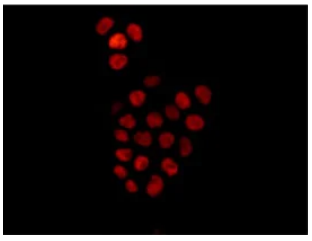
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-SOX9 antibody [EPR12755] (ab182579)

SOX9 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SOX9 antibody

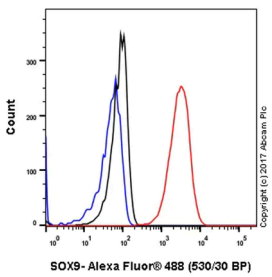
Immunofluorescent analysis of Caco 2 cells labeling SOX9 using ab182579 at 1/250 dilution. A Goat anti rabbit IgG (Alexa Fluor555) at 1/200 dilution was used as secondary antibody. Cells were fixed with 4% paraformaldehyde.



Immunocytochemistry/ Immunofluorescence - Anti-SOX9 antibody [EPR12755] (ab182579)

SOX9 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SOX9 antibody

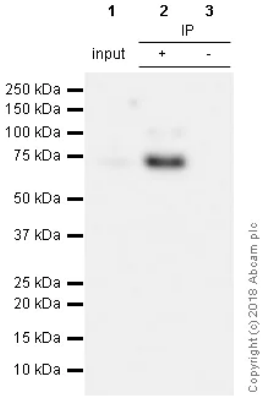
Immunofluorescence analysis of SW480 cells labeling SOX9 using ab182579 at 1/250 dilution. A Goat anti rabbit IgG (Alexa Fluor555) at 1/200 dilution was used as secondary antibody. Cells were fixed with 4% paraformaldehyde.



Flow Cytometry (Intracellular) - Anti-SOX9 antibody [EPR12755] (ab182579)

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

Intracellular Flow Cytometry analysis of SW480 (human colorectal adenocarcinoma) cells labeling SOX9 with purified ab182579 at 1/500 dilution (1ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) (ab172730) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.



Immunoprecipitation - Anti-SOX9 antibody [EPR12755] (ab182579)

All lanes:
Immunoprecipitation - Anti-SOX9 antibody [EPR12755] (ab182579) at 1/80 dilution

Lane 1:
SW480 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate, 10ug

Lane 2:
SW480, 350ug, +, ab182579 2ug

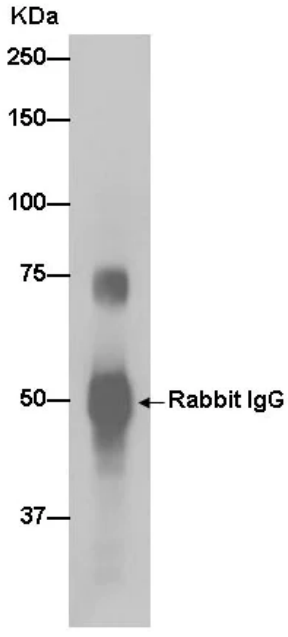
Lane 3:
SW480 cell lysate, 350ug + rabbit IgG (ab172730) , 2ug

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 56 kDa

Observed band size: 75 kDa

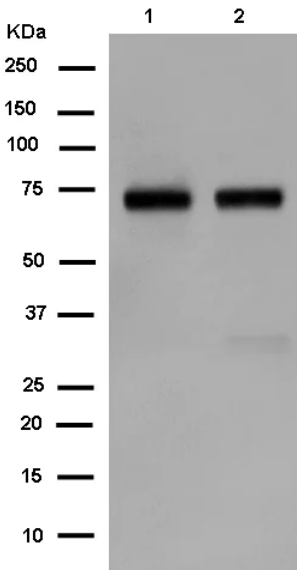


Immunoprecipitation - Anti-SOX9 antibody [EPR12755] (ab182579)

Detection of SOX9 by Western Blot of Immunprecipitate.
Caco 2 cell lysate immunoprecipitated using ab182579 at 1/50 dilution.
A Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 was used as secondary antibody.

All lanes:
Immunoprecipitation - Anti-SOX9 antibody [EPR12755] (ab182579)

Predicted band size: 56 kDa



Western blot - Anti-SOX9 antibody [EPR12755] (ab182579)

SOX9 Western blot staining using rabbit Anti-SOX9 antibody

All lanes:
Western blot - Anti-SOX9 antibody [EPR12755] (ab182579) at 1/10000 dilution

Lane 1:
SW480 cell lysate at 20 µg

Lane 2:
Caco 2 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 56 kDa

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