abcam

ab196536

Alexa Fluor® 647 Anti-SATB2 antibody [EPNCIR130A]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
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	EPNCIR130A
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	1/250
Notes	This product gave a positive signal in HT1080 cells fixed with 4% formaldehyde (10 min)

Expected

Species	Mouse, 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 SATB2

Function	Binds to DNA, at nuclear matrix- or scaffold-associated regions. Thought to recognize the sugar-phosphate structure of double-stranded DNA. Transcription factor controlling nuclear gene expression, by binding to matrix attachment regions (MARs) of DNA and inducing a local chromatin-loop remodeling. Acts as a docking site for several chromatin remodeling enzymes and also by recruiting corepressors (HDACs) or coactivators (HATs) directly to promoters and enhancers. Required for the initiation of the upper-layer neurons (UL1) specific genetic program and for the inactivation of deep-layer neurons (DL) and UL2 specific genes, probably by modulating BCL11B expression. Repressor of Ctip2 and regulatory determinant of corticocortical connections in the developing cerebral cortex. May play an important role in palate formation. Acts as a molecular node in a transcriptional network regulating skeletal development and osteoblast differentiation.

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, Stable for 12 months at -20°C, Store in the dark

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.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The SATB2 protein also known as Special AT-rich Sequence-Binding Protein 2 is a DNA-binding protein with a mass of about 82 kDa. It plays a role in chromatin organization and transcriptional regulation by binding to AT-rich sequences within the nuclear matrix. SATB2 shows high expression levels in the cerebral cortex and the bone where it influences gene expression. It functions by facilitating the assembly of transcriptional machineries enhancing or repressing the transcription of its target genes.
Biological function summary	SATB2 acts as a regulator of multiple developmental processes. It serves as a master control gene in osteoblast differentiation and skeletal development by forming complexes with core binding factors. In the brain SATB2 contributes to the development and maintenance of neuronal networks that are essential for cognitive functions. Its binding to matrix attachment regions aids in the spatial organization of nuclear chromatin impacting gene expression pertinent to development and differentiation.
Pathways	SATB2 operates within the Wnt signaling pathway and the regulation of osteoblast differentiation. It interacts with proteins such as RUNX2 and β-catenin which play roles in bone formation and homeostasis. Within these pathways SATB2 modulates gene networks that influence the expression of structural and signaling proteins important for tissue differentiation and repair particularly in bone and neuronal contexts.
Associated diseases and disorders	SATB2 has associations with cleft palate and intellectual disabilities conditions often related to alterations in craniofacial and neurological development. It interacts with proteins like SOX9 and TCF7L1 which have roles in developmental processes that when disrupted can lead to such conditions. Understanding SATB2's involvement in these disorders provides insights into potential therapeutic targets for interventions aiming to mitigate developmental abnormalities.

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.

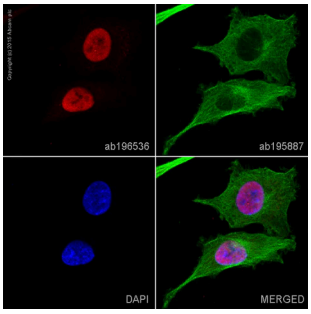
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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2 product images

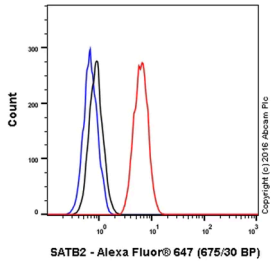


Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-SATB2 antibody [EPNCIR130A] (ab196536)

SATB2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SATB2 antibody

ab196536 staining SATB2 in HT1080 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 ab196536 at 1/200 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 1/250 dilution (shown in green). 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® 647 Anti-SATB2 antibody [EPNCIR130A] (ab196536)

SATB2 Flow Cytometry (Intracellular) staining using rabbit Anti-SATB2 antibody

Overlay histogram showing A431 cells stained with ab196536 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab196536, 1/50 dilution) for 30 min at 22°C.
Isotype control antibody (black line) was Rabbit IgG (monoclonal) Alexa Fluor® 647 (ab199093) 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 25mW Red Solid State Diode laser (635nm) and 675/30 bandpass filter.

This antibody gave a positive signal in A431 cells fixed with 4% formaldehyde (10 min)/permeabilized with 0.1% PBS-Triton X-100 for 15 min used under the same conditions.

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