abcam

ab199221

Alexa Fluor® 488 Anti-RUNX1 / AML1 + RUNX3 + RUNX2 antibody [EPR3099]

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	EPR3099
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	1/100
Notes	This product gave a positive signal in U87MG cells fixed with 4% formaldehyde (10 min) and 100% methanol (5 min).

Predicted

Species	Mouse, Rat, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human, 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 RUNX1

Function	Forms the heterodimeric complex core-binding factor (CBF) with CBFB. RUNX members modulate the transcription of their target genes through recognizing the core consensus binding sequence 5'-TGTGGT-3', or very rarely, 5'-TGCGGT-3', within their regulatory regions via their runt domain, while CBFB is a non-DNA-binding regulatory subunit that allosterically enhances the sequence-specific DNA-binding capacity of RUNX. The heterodimers bind to the core site of a number of enhancers and promoters, including murine leukemia virus, polyomavirus enhancer, T-cell receptor enhancers, LCK, IL3 and GM-CSF promoters (Probable). Essential for the development of normal hematopoiesis (PubMed:17431401). Acts

synergistically with ELF4 to transactivate the IL-3 promoter and with ELF2 to transactivate the BLK promoter (PubMed:10207087, PubMed:14970218). Inhibits KAT6B-dependent transcriptional activation (By similarity). Involved in lineage commitment of immature T cell precursors. CBF complexes repress ZBTB7B transcription factor during cytotoxic (CD8+) T cell development. They bind to RUNX-binding sequence within the ZBTB7B locus acting as transcriptional silencer and allowing for cytotoxic T cell differentiation. CBF complexes binding to the transcriptional silencer is essential for recruitment of nuclear protein complexes that catalyze epigenetic modifications to establish epigenetic ZBTB7B silencing (By similarity). Controls the anergy and suppressive function of regulatory T-cells (Treg) by associating with FOXP3. Activates the expression of IL2 and IFNG and down-regulates the expression of TNFRSF18, IL2RA and CTLA4, in conventional T-cells (PubMed:17377532). Positively regulates the expression of RORC in T-helper 17 cells (By similarity). Isoform AML-1G shows higher binding activities for target genes and binds TCR-beta-E2 and RAG-1 target site with threefold higher affinity than other isoforms. It is less effective in the context of neutrophil terminal differentiation. Isoform AML-1L interferes with the transactivation activity of RUNX1.

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

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	RUNX1 also known as AML1 along with RUNX2 and RUNX3 form a family of transcription factors that play a critical role in gene regulation. These proteins recognize specific DNA sequences through their Runt domain facilitating DNA binding and transcriptional activation or repression. RUNX1 is extensively studied having a mass of approximately 48 kDa. They are expressed in various tissues including hematopoietic cells osteoblasts and the central nervous system. RUNX proteins regulate genes involved in cell differentiation and proliferation.
Biological function summary	RUNX1 RUNX2 and RUNX3 control processes in development and differentiation. They often function as part of a transcriptional complex with CBFβ enhancing DNA binding and transcriptional activity. RUNX1 is vital in hematopoiesis guiding the formation of blood cells. RUNX2 predominantly influences bone development by regulating osteoblast differentiation while RUNX3 impacts neural development and T-cell maturation. These proteins collectively integrate signals to ensure proper cell lineage decisions.
Pathways	RUNX proteins participate in essential cellular pathways like the Wnt and TGF-β signaling pathways. The Wnt pathway involves interaction with β-catenin affecting cell fate and development processes. RUNX2 plays a significant role here by contributing to bone formation. The TGF-β pathway influences cell growth and differentiation by interacting with SMAD proteins primarily through RUNX3 which modulates immune responses and tumorigenesis. These pathways highlight RUNX proteins' critical integration in signaling networks.
Associated diseases and disorders	RUNX1 mutations associate with various hematological malignancies notably acute myeloid leukemia (AML). RUNX1 mutations disrupt normal hematopoiesis leading to uncontrolled cell proliferation. RUNX2's dysregulation relates to cleidocranial dysplasia a skeletal disorder characterized by delayed bone development. Both RUNX1 and RUNX2 link to similar signaling pathways such as the Wnt pathway implicating them in these diseases' pathogenesis. Understanding RUNX proteins' role can lead to better diagnostic and therapeutic approaches for these conditions.

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.

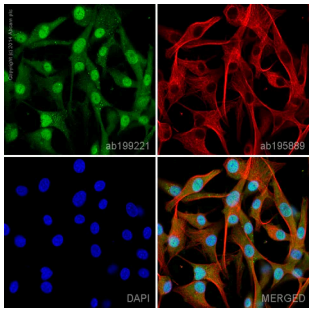
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-RUNX1 / AML1 + RUNX3 + RUNX2 antibody [EPR3099] (ab199221)

RUNX1 / AML1 + RUNX3 + RUNX2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RUNX1 / AML1 + RUNX3 + RUNX2 antibody

ab199221 staining RUNX1 / AML1+RUNX3+RUNX2 in U87MG cells. The cells were fixed with 100% methanol (5 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 ab199221 at a 1/100 dilution (shown in green) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at a 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).

This product also gave a positive signal under the same testing conditions in U87MG cells fixed with 4% formaldehyde (10 min).

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