abcam

ab240227

Anti-RBPJK antibody [EPR13479] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR13479
Purification technique	Affinity purification Protein A
Concentration	1.023 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Rat, Human, Mouse
Dilution info	-
Notes	-

Target data

See full target information RBPJ

Function

Transcriptional regulator that plays a central role in Notch signaling, a signaling pathway involved in cell-cell communication that regulates a broad spectrum of cell-fate determinations. Acts as a transcriptional repressor when it is not associated with Notch proteins. When associated with some NICD product of Notch proteins (Notch intracellular domain), it acts as a transcriptional activator that activates transcription of Notch target genes. Probably represses or activates transcription via the recruitment of chromatin remodeling complexes containing histone deacetylase or histone acetylase proteins, respectively. Specifically binds to the immunoglobulin kappa-type J segment recombination signal sequence. Binds specifically to methylated DNA (PubMed:21991380). Binds to the oxygen responsive element of COX4I2 and activates its transcription under hypoxia conditions (4% oxygen) (PubMed:23303788). Negatively regulates the phagocyte oxidative burst in response to bacterial infection by repressing transcription of NADPH oxidase subunits (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Storage information	Do Not Freeze

Notes

ab240227 is the carrier-free version of ab180588.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	RBPJK also known as CSL or CBF1 is a transcriptional regulator that plays an important role in the Notch signaling pathway. It has a molecular mass of approximately 60 kDa. RBPJK expression occurs in multiple tissues including the thymus brain and heart. This protein operates mechanically by binding to DNA and mediating the transcriptional activity of Notch target genes.
Biological function summary	The protein functions as a central component of the Notch signaling complex. It interacts with other proteins to regulate the expression of genes that guide cell fate decisions. RBPJK forms complexes with Notch intracellular domain and Mastermind-like (MAML) co-activators and it can switch between repressor or activator of transcription depending on its binding partners. This regulation ensures proper development and tissue homeostasis.
Pathways	RBPJK influences processes that are critical in cell differentiation and proliferation. It resides within the Notch signaling pathway where it is essential for transmitting

	Notch receptor signals into the cell nucleus. RBPJK associates with proteins such as Notch1 and MAML1 facilitating a cascade of events important for determining cellular outcomes during developmental processes and maintaining stem cell populations.
Associated diseases and disorders	Dysregulation of RBPJK has connections to cancer and Alzheimer’s disease. In cancer aberrant Notch signaling often involving RBPJK leads to unchecked cell proliferation and survival making it a target for drug development. Alzheimer's disease studies reveal that RBPJK may influence the processing of amyloid precursor protein with possible links to abnormal protein aggregation. Understanding interactions with proteins like NICD and APP is important for unraveling its role in 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

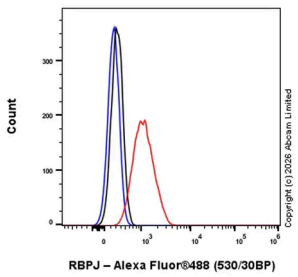
We do not recommend this combination. It is not covered by our product promise.

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.

3 product images

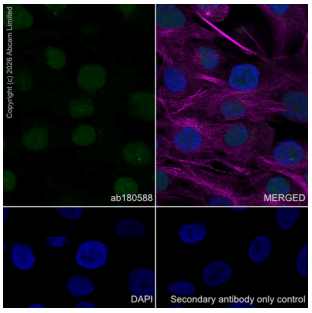


Flow Cytometry (Intracellular) - Anti-RBPJK antibody [EPR13479] - BSA and Azide free (ab240227)

RBPJK Flow Cytometry (Intracellular) staining of MG-63 (human osteosarcoma fibroblast) using rabbit Anti-RBPJK antibody

This data was developed using ab180588, the same antibody clone in a different buffer formulation.

Flow cytometry overlay histogram of 4% Paraformaldehyde MG 63 (human osteosarcoma fibroblast) cells permeabilised with 90% methanol labelling RBPJK with ab180588 at 1/50 dilution (red) compared with a Rabbit monoclonal IgG (ab172730) (Black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150081) , at 1/5000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-RBPJK antibody [EPR13479] - BSA and Azide free (ab240227)

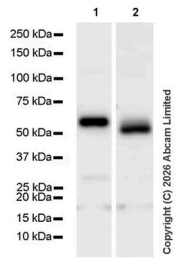
RBPJK Immunocytochemistry/ Immunofluorescence staining of MG 63 (human osteosarcoma fibroblast) using rabbit Anti-RBPJK antibody

This data was developed using ab180588, the same antibody clone in a different buffer formulation.

Immunocytochemistry/ Immunofluorescence analysis of MG 63 (human osteosarcoma fibroblast) cells labeling RBPJK with Purified ab180588 at 1:50 dilution. Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1:200 dilution. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (ab150081) was used as the secondary antibody at 1:1000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control.

Confocal image showing mainly nuclear staining in MG-63 cell line(shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).

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



Western blot - Anti-RBPJK antibody [EPR13479] - BSA and Azide free (ab240227)

RBPJK Western blot staining using rabbit Anti-RBPJK antibody

This data was developed using ab180588, the same antibody clone in a different buffer formulation.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-RBPJK antibody [EPR13479] (ab180588)

Lane 1:
THP-1 (human monocytic leukemia monocyte) whole cell lysate at 20 µg

Lane 2:
MG-63 (human osteosarcoma fibroblast) whole cell lysate at 20 µg

Secondary

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

Observed band size: 55 kDa

Exposure time: 48s

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