abcam

ab180588

Anti-RBPJK antibody [EPR13479]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR13479
Purification technique	Affinity purification Protein A
Concentration	1.005 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat

Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

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	-

IP

Not recommended

Species	Rat, Mouse, Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Rat, Mouse, Human
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	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.

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

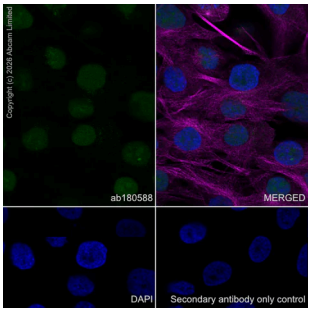
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images



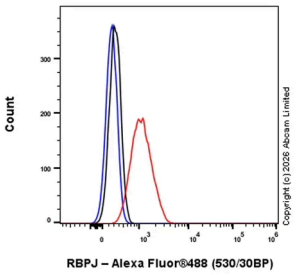
Immunocytochemistry/ Immunofluorescence - Anti-RBPJK antibody [EPR13479] (ab180588)

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

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).

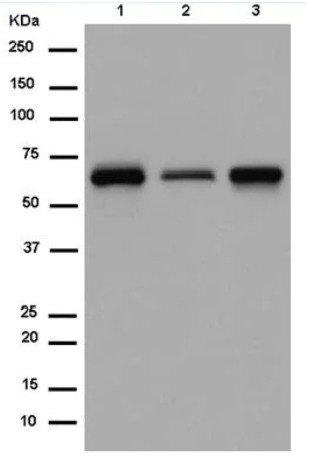
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).



Flow Cytometry (Intracellular) - Anti-RBPJK antibody [EPR13479] (ab180588)

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

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.



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

All lanes:
Western blot - Anti-RBPJK antibody [EPR13479] (ab180588) at 1/2000 dilution

Lane 1:
293 cell line lysate

Lane 2:
MCF7 cell line lysate

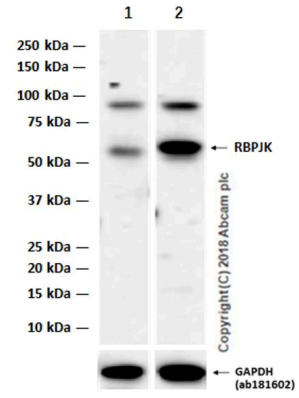
Lane 3:
HeLa cell line lysate

Secondary

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

Predicted band size: 56 kDa

Observed band size: 60 kDa



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

Blocking/Diluting buffer and concentration 5% NFDM/TBST.
Extra band at: 90kDa
We are unsure as to the identity of this extra band.

For Lysate preparation protocol, please refer to the protocol section of the website and/or here.

All lanes:
Western blot - Anti-RBPJK antibody [EPR13479] (ab180588) at 1/1000 dilution

Lane 1:
MCF-7 (Human breast adenocarcinoma epithelial cell) whole cell lysate 20ug prepared using RIPA lysis method at 20 µg

Lane 2:

MCF-7 (Human breast adenocarcinoma epithelial cell) whole cell lysate 20ug prepared using 1% SDS hot lysis method at 20 µg

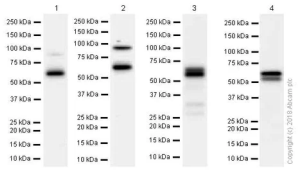
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/20000 dilution

Predicted band size: 56 kDa

Observed band size: 60 kDa

Exposure time: 3min



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

RBPJK Western blot staining using rabbit Anti-RBPJK antibody

The double bands are consistent with what has been described in the literature PMID: 9102301 and 24603501
All lanes:
Western blot - Anti-RBPJK antibody [EPR13479] (ab180588) at 1/1000 dilution

Lane 1:
Raji (Human Burkitt's lymphoma B lymphocyte) whole cell lysates at 15 µg

Lane 2:
MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysates at 15 µg

Lane 3:
F9 (Mouse embryonal carcinoma epithelial cell) whole cell lysates at 15 µg

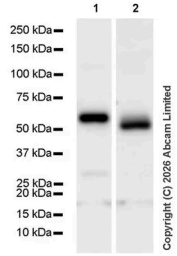
Lane 4:
C6 (Rat glial tumor glial cell) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 56 kDa

Observed band size: 56-60 kDa



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

RBPJK Western blot staining using rabbit Anti-RBPJK antibody

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

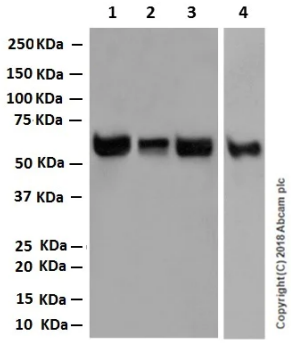
Lane 2:
MG-63 (human osteosarcoma fibroblast) whole cell lysate at 20 µg

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



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

Blocking and diluting buffer: 5% NFDM/TBST.

Exposure time: Lane 1-3: 3 minutes
Lane 4: 45 seconds
All lanes:
Western blot - Anti-RBPJK antibody [EPR13479] (ab180588) at 0.4 µg/mL

Lane 1:
C6 (Rat glial tumor glial cell) whole cell lysate at 20 µg

Lane 2:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

Lane 3:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 4:
Raw264.7 (Mouse abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 56 kDa

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