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Anti-RBPJK/RBPJ Picoband™ Antibody (monoclonal, 6G4)

Catalog # ABO15003

Product Information

Application	WB, FC
Primary Accession	Q06330
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-RBPJK/RBPJ Picoband™ Antibody (monoclonal, 6G4) . Tested in Flow Cytometry, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	3516
Other Names	Recombining binding protein suppressor of hairless, CBF-1, J kappa-recombination signal-binding protein, RBP-J kappa, RBP-J, RBP-JK, Renal carcinoma antigen NY-REN-30, RBPJ (HGNC:5724)
Calculated MW	55637
Application Details	Western blot, 0.25-0.5 □g/ml, Human, Mouse, Rat Flow Cytometry, 1-3 □g/1x10^6 cells, Human, Mouse
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.
Clone Names	Clone: 6G4
Immunogen	E.coli-derived human RBPJK/RBPJ recombinant protein (Position: K41-Q467).
Purification	Immunogen affinity purified.
Storage	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.

Protein Information

Name	RBPJ (HGNC:5724)

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 (PubMed:41086914, PubMed:36129980). 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).
Cellular Location	Nucleus. Cytoplasm. Note=Mainly nuclear, upon interaction with RITA/C12orf52, translocates to the cytoplasm, down- regulating the Notch signaling pathway

Background

Recombination signal binding protein for immunoglobulin kappa J region is a protein that in humans is encoded by the RBPJ gene. It is mapped to 4p15.2. The protein encoded by this gene is a transcriptional regulator important in the Notch signaling pathway. The encoded protein acts as a repressor when not bound to Notch proteins and an activator when bound to Notch proteins. It is thought to function by recruiting chromatin remodeling complexes containing histone deacetylase or histone acetylase proteins to Notch signaling pathway genes. Several transcript variants encoding different isoforms have been found for this gene, and several pseudogenes of this gene exist on chromosome 9.

Images

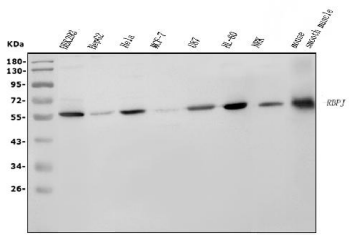


Figure 1. Western blot analysis of RBPJK/RBPJ using anti-RBPJK/RBPJ antibody (M00767-1).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human HEK293 whole cell lysates,
Lane 2: human HEPG2 whole cell lysates,
Lane 3: human HELA whole cell lysates,
Lane 4: human MCF-7 whole cell lysates,
Lane 5: human U87 whole cell lysates,
Lane 6: human HL-60 whole cell lysates,
Lane 7: rat NRK whole cell lysates,
Lane 8: mouse smooth muscle tissue lysates.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes.
Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-RBPJK/RBPJ antigen affinity purified monoclonal antibody (Catalog # M00767-1) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced

Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for RBPJK/RBPJ at approximately 56KD. The expected band size for RBPJK/RBPJ is at 56KD.

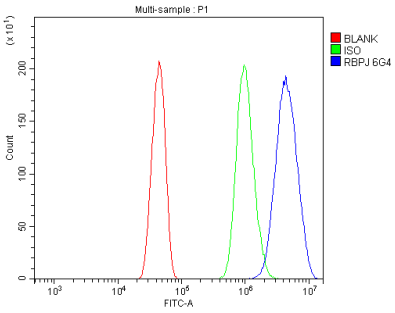


Figure 2. Flow Cytometry analysis of HEPA1-6 cells using anti-RBPJK/RBPJ antibody (M00767-1).
Overlay histogram showing HEPA1-6 cells stained with M00767-1 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-RBPJK/RBPJ Antibody (M00767-1, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

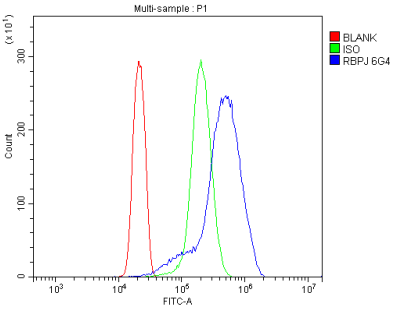


Figure 3. Flow Cytometry analysis of U937 cells using anti-RBPJK/RBPJ antibody (M00767-1).
Overlay histogram showing U937 cells stained with M00767-1 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-RBPJK/RBPJ Antibody (M00767-1, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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