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San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TCRB Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12193c

Specification

TCRB Antibody (Center) - Product Information

Application	**WB, FC,E**
Primary Accession	P04435
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**67-94**

TCRB Antibody (Center) - Additional Information

Other Names
T-cell receptor beta chain V region CTL-L17, TCRB

Target/Specificity
This TCRB antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 67-94 amino acids from the Central region of human TCRB.

Dilution
WB~~1:1000
FC~~1:25

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
TCRB Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

TCRB Antibody (Center) - Protein Information

Name TRBV7-9 {ECO:0000303|Ref.3}

Function V region of the variable domain of T cell receptor (TR) beta chain that participates in the antigen recognition (PubMed:24600447). Alpha-beta T cell receptors are antigen specific receptors which are essential to the immune response and are present on the cell surface of T lymphocytes. Recognize peptide-major histocompatibility (MH) (pMH) complexes that are displayed by antigen presenting cells (APC), a prerequisite for efficient T cell adaptive immunity against pathogens

(PubMed:25493333). Binding of alpha-beta TR to pMH complex initiates TR-CD3 clustering on the cell surface and intracellular activation of LCK that phosphorylates the ITAM motifs of CD3G, CD3D, CD3E and CD247 enabling the recruitment of ZAP70. In turn ZAP70 phosphorylates LAT, which recruits numerous signaling molecules to form the LAT signalosome. The LAT signalosome propagates signal branching to three major signaling pathways, the calcium, the mitogen-activated protein kinase (MAPK) kinase and the nuclear factor NF-kappa-B (NF-kB) pathways, leading to the mobilization of transcription factors that are critical for gene expression and essential for T cell growth and differentiation (PubMed:23524462). The T cell repertoire is generated in the thymus, by V-(D)-J rearrangement. This repertoire is then shaped by intrathymic selection events to generate a peripheral T cell pool of self-MH restricted, non-autoaggressive T cells. Post-thymic interaction of alpha-beta TR with the pMH complexes shapes TR structural and functional avidity (PubMed:15040585).

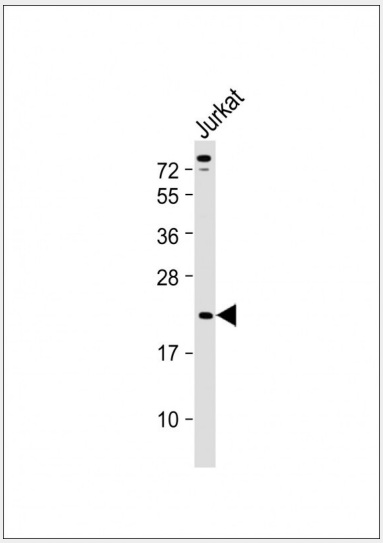
Cellular Location
Cell membrane.

TCRB Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

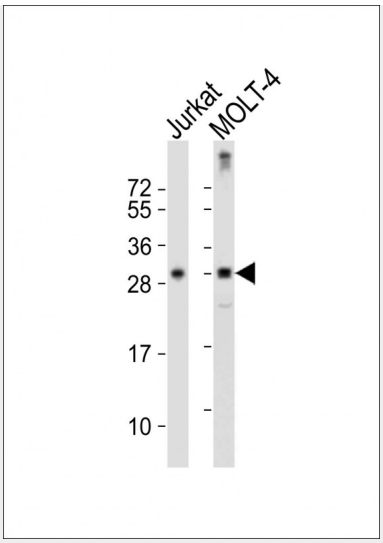
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

TCRB Antibody (Center) - Images

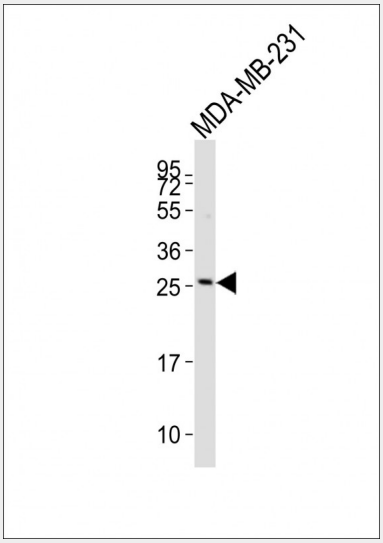


Anti-TCRB Antibody (Center) at 1:2000 dilution + Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 15 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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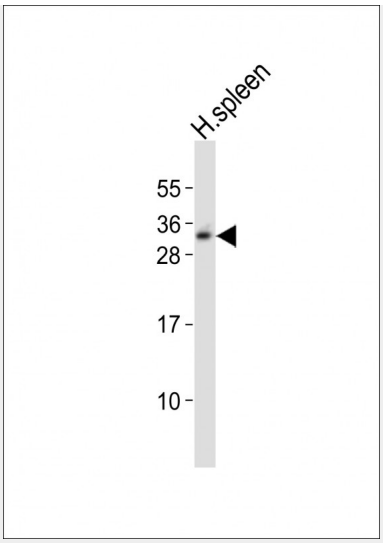


All lanes : Anti-TCRB Antibody (Center)(AP12193c) at 1:1000 dilution Lane 1: Jurkat whole cell lysates Lane 2: MOLT-4 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 15 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

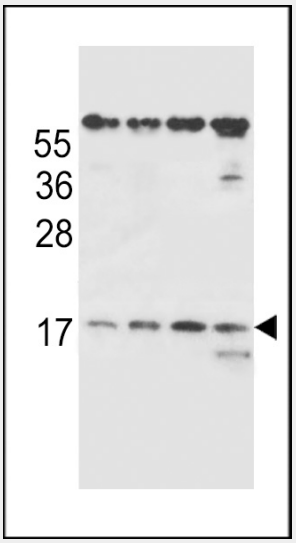


Anti-TCRB Antibody (Center)(AP12193c) at 1:500 dilution + MDA-MB-231 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 15 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

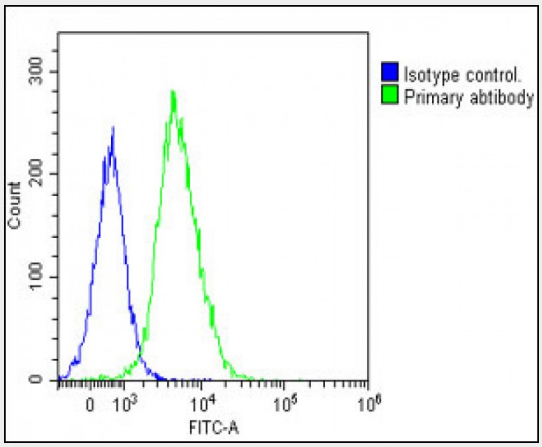
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Anti-TCRB Antibody (Center) at 1:1000 dilution + human spleen lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size :15 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



TCRB Antibody (Center) (Cat. #AP12193c) western blot analysis in MDA-MB231,HEK293,Ramos,NCI-H460 cell line lysates (35ug/lane).This demonstrates the TCRB antibody detected the TCRB protein (arrow).



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Overlay histogram showing Jurkat cells stained with AP12193c(green line). The cells were fixed with 2% paraformaldehyde and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed at 1/200 dilution for 40 min at Room temperature. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

TCRB Antibody (Center) - Background

The receptors on T cells consist of immunoglobulin like integral membrane glycoproteins containing 2 polypeptide subunits, alpha and beta, of similar molecular weight, 40 to 55 kD in the human. Like the immunoglobulins of the B cells, each T cell receptor subunit has, external to the cell membrane, an N terminal variable domain and a C terminal constant domain.

T cell receptors recognise foreign antigens which have been processed as small peptides and bound to major histocompatibility complex molecules at the surface of antigen presenting cells. Each T cell receptor is a dimer consisting of one alpha and one beta chain or one delta and one gamma chain. In a single cell, the T cell receptor loci are rearranged and expressed in the order delta, gamma, beta, and alpha. If both delta and gamma rearrangements produce functional chains, the cell expresses delta and gamma. If not, the cell proceeds to rearrange the beta and alpha loci.