

TCR beta Antibody
Rabbit Polyclonal Antibody
Catalog # ABV11032**Specification**

TCR beta Antibody - Product Information

Application	WB, IHC, IP
Primary Accession	P01850
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	19769

TCR beta Antibody - Additional Information

Application & Usage	Western blotting (0.5-4 µg/ml). Based on researcher's feedback, the antibody can also be used in immunoprecipitation (10-20 µg/ml); and Immunohistochemistry (15-25 µg/ml). However, the optimal concentrations should be determined individually. The antibody recognizes 34 kDa TCR β of human, mouse, and rat origins. Reactivity to other species has not been tested. MOLT-4 cell lysate can be used as a positive control.
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Other Names

T cell antigen receptor, T cell receptor beta, TCRB, TRB

Target/Specificity

TCRb

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.2 mg/ml) affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA, and 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

TCR beta Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TCR beta Antibody - Protein Information

Name TRBC1 {ECO:0000303|Ref.7}

Function

Constant region of T cell receptor (TR) beta chain (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, PubMed:9382891). 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.

TCR beta Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

TCR beta Antibody - Images**TCR beta Antibody - Background**

TCR (T cell antigen receptor) recognizes foreign antigens and translates such recognition events into intracellular signals that elicit a change in the cell from a dormant to an activated state. TCR is

a heterodimer composed of either α and β or γ and δ chains. The vast majority of circulating T cells (95%) express the α/β heterodimer while roughly 2-5% express the γ/δ heterodimer. CD3 chains and the CD4 or CD8 coreceptors are also required for efficient signal transduction through the TCR.