

**TCR beta Blocking Peptide**  
**Catalog # PBV10498b****Specification**

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**TCR beta Blocking Peptide - Product Information**

Primary Accession	<a href="#">P01850</a>
Gene ID	<b>28639</b>
Calculated MW	<b>19769</b>

**TCR beta Blocking Peptide - Additional Information****Application & Usage**

The peptide is used for blocking the antibody activity of TCR Beta Peptide. It usually blocks the antibody activity completely in Western blot analysis by incubating the peptide with equal volume of antibody for 30-60 minutes at 37°C.

**Other Names**

T-cell receptor beta-1 chain C region, TRBC1

**Target/Specificity**

TCR beta

**Formulation**

50 µg (0.2 mg/ml) in phosphate buffered saline (PBS), pH 7.2, containing 50% glycerol, 1% BSA and 0.02% thimerosal.

**Reconstitution & Storage**

-20 °C

**Background Descriptions****Precautions**

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

**TCR beta Blocking Peptide - Protein Information**

**Name** TRBC1 {ECO:0000303|Ref.7}

**Function**

Constant region of T cell receptor (TR) beta chain (PubMed:<a href="http://www.uniprot.org/citations/24600447" target="\_blank">24600447</a>). 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:<a

href="http://www.uniprot.org/citations/25493333" target="\_blank">25493333</a>). 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:<a href="http://www.uniprot.org/citations/9382891" target="\_blank">9382891</a>, PubMed:<a href="http://www.uniprot.org/citations/23524462" target="\_blank">23524462</a>). 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:<a href="http://www.uniprot.org/citations/15040585" target="\_blank">15040585</a>).

### **Cellular Location**

Cell membrane.

### **TCR beta Blocking Peptide - 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 Blocking Peptide - Images**