10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TCRB Antibody (Center) Blocking peptide
Synthetic peptide
Catalog # BP12193c

Specification

TCRB Antibody (Center) Blocking peptide - Product Information

Primary Accession P04435

TCRB Antibody (Center) Blocking peptide - Additional Information

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

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

TCRB Antibody (Center) Blocking peptide - 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) Blocking peptide - Protocols

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

- Blocking Peptides

TCRB Antibody (Center) Blocking peptide - Images

TCRB Antibody (Center) Blocking peptide - 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.