9853 Pacific Heights Blvd.
Suite D. San Diego,
CA 92121, USA
Tel: 858-263-4982
Email: info@abeomics.com

30-2489: Anti-Human TCR Cbeta1 FITC (Clone : JOVI.1)

Clonality :	Monoclonal
Clone Name :	JOVI.1
Application :	FACS
Reactivity :	Human
Conjugate :	FITC
Gene :	TRBC1
Gene ID :	28639
Alternative Name :	TCRCB1, TRBC1,T cell receptor beta constant 1
Isotype :	Mouse IgG2a kappa
Immunogen Information :	Thymus, spleen, and mesenteric lymph nodes isolated from a mouse transgenic for human TCR Vbeta3Cbeta1

Description

Alpha-beta T cell receptors (TCRs) are antigen specific receptors, which are essential to the immune response and are present on the cell surface of T lymphocytes. They recognize peptide-loaded major histocompatibility complexes (pMHCs), that are displayed by antigen presenting cells (APCs). Binding of alpha-beta TCR to pMHC initiates TCR-CD3 clustering on the cell surface and intracellular activation of LCK, that phosphorylates the ITAM motifs of CD3gamma, CD3delta, CD3epsilon and CD3zeta, 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 signaling, the mitogen-activated protein kinase (MAPK) kinase and the nuclear factor NFkappaB (NF-kB) pathways, leading to the mobilization of transcription factors, that are critical for gene expression and essential for T cell growth and differentiation. The T cell repertoire is generated by V-D-J-C rearrangements. This repertoire is then shaped by intrathymic selection events to generate a peripheral T cell pool of self-MHC restricted, non-autoaggressive T cells. Post-thymic interaction of alpha-beta TCRs with the pMHCs shapes TCR structural and functional avidity.
Specificity : The mouse monoclonal antibody JOVI.1 recognizes an extracellular epitope on TCR Cbeta1 (TRBC1).

Product Info

Amount :	100 tests
Purification :	The purified antibody is conjugated with fluorescein isothiocyanate (FITC) under optimum conditions. The conjugate is purified by size-exclusion chromatography.
Content :	Formulation : Stabilizing phosphate buffered saline (PBS) solution containing 15 mM sodium azide
Storage condition :	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light.

Application Note

Flow cytometry: The reagent is designed for analysis of human blood cells using 4 Ã□Âµl reagent / 100 Ã□Âµl of whole blood or 10^6 cells in a suspension. The content of a vial (0.4 ml) is sufficient for 100 tests.

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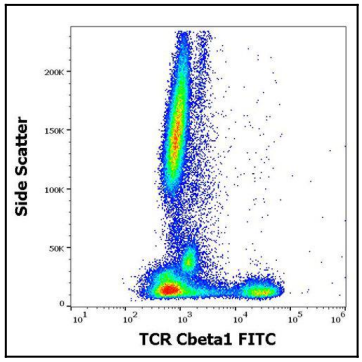


Figure 1 : Flow cytometry surface staining pattern of human peripheral whole blood stained using anti-human TCR Cbeta1 (JOVI.1) FITC antibody (4 µl reagent / 100 µl of peripheral whole blood).

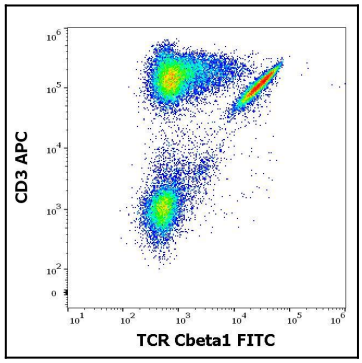


Figure 2 : Flow cytometry multicolor surface staining of human lymphocytes stained using anti-human TCR Cbeta1 (JOVI.1) FITC antibody (4 µl reagent / 100 µl of peripheral whole blood) and anti-human CD3 (UCHT1) APC antibody (10 µl reagent / 100 µl of peripheral whole blood).

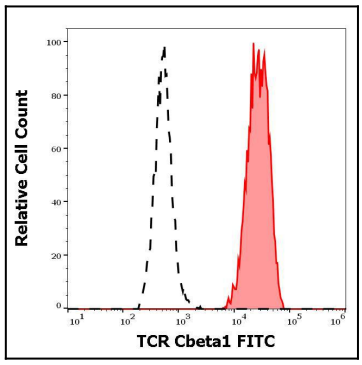


Figure 3 :Separation of human TCR Cbeta1 positive T cells (red-filled) from TCR Cbeta1 negative lymphocytes(black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using anti-human TCR Cbeta1 (JOVI.1) FITC antibody (4 µl reagent / 100 µl of peripheral whole blood).

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