abcam

ab171103

Anti-TCR V delta 2 antibody [15D]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.1% Sodium azide Constituents: PBS, 0.5% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Full Length Protein corresponding to Human TRDC. The exact immunogen used to generate this antibody is proprietary information. Database link B7Z8K6
Clone number	15D
Purification technique	Affinity purification Protein A
Concentration	0.15 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	5 µL for 10^4 Cells
Notes	1-2 µg/test. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	1/1 - 1/100
Notes	-

Target data

See full target information TRDC

Function	Constant region of T cell receptor (TR) delta chain that participates in the antigen recognition (PubMed:24600447). Gamma-delta TRs recognize a variety of self and foreign non-peptide antigens frequently expressed at the epithelial boundaries between the host and external environment, including endogenous lipids presented by MH-like protein CD1D and phosphoantigens presented by butyrophilin-like molecule BTN3A1. Upon antigen recognition induces rapid, innate-like immune responses involved in pathogen clearance and tissue repair (PubMed:23348415, PubMed:28920588). Binding of gamma-delta TR complex to antigen triggers phosphorylation of immunoreceptor tyrosine-based activation motifs (ITAMs) in the CD3 chains by the LCK and FYN kinases, allowing the recruitment, phosphorylation, and activation of ZAP70 that facilitates phosphorylation of the scaffolding proteins LCP2 and LAT. This lead to the formation of a supramolecular signalosome that recruits the phospholipase PLCG1, resulting in calcium mobilization and ERK activation, ultimately leading to T cell expansion and differentiation into effector cells (PubMed:25674089). Gamma-delta TRs are produced through somatic rearrangement of a limited repertoire of variable (V), diversity (D), and joining (J) genes. The potential diversity of gamma-delta TRs is conferred by the unique ability to rearrange (D) genes in tandem and to utilize all three reading frames. The combinatorial diversity is considerably increased by the sequence exonuclease trimming and random nucleotide (N) region additions which occur during the V-(D)-J rearrangements (PubMed:24387714).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	TCR V delta 2 also known as Vγ9/Vδ2 T-cell receptor constitutes a specific chain of the gamma delta T-cell receptor present on the surface of some T cells. Weighing approximately 60 kDa TCR V delta 2 gets expressed in a subset of gamma delta T cells predominantly in peripheral blood of adult humans. Unlike alpha beta T-cell receptors this receptor recognizes antigens in a non-MHC-restricted manner making it unique in its mechanistic role in immune surveillance and response.
Biological function summary	TCR V delta 2 allows gamma delta T cells to identify and respond swiftly to peptide antigens typically associated with microbial infections. These cells do not require antigen processing or presentation by major histocompatibility complex (MHC) molecules and can respond directly to phosphoantigens presented by infected or transformed cells. In doing so they bridge innate and adaptive immunity by activating other immune cells like dendritic cells through cytokine release thereby modulating the immune response effectively.
Pathways	This T-cell receptor plays a notable role in the immune response and inflammation pathways. Key proteins involved in these pathways include CD3 a coreceptor that gets associated with TCR signaling amplifying the activation and function of gamma delta T cells. The receptor-mediated recognition and response to non-peptidic antigens activate downstream signaling pathways critical for cell-mediated cytotoxicity and cytokine production therefore advancing immune responses against pathogens or tumors.
Associated diseases and disorders	TCR V delta 2 has associations with infections and cancer. Its ability to recognize and eliminate infected or malignant cells without the need for MHC molecules suggests a potential therapeutic role in controlling infections such as tuberculosis or combating various cancers. It connects closely with proteins like interleukin-2 which enhances the proliferation and activation of TCR V delta 2-bearing cells further contributing to its potential use in immunotherapy strategies for these conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

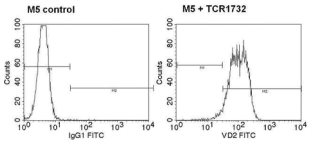
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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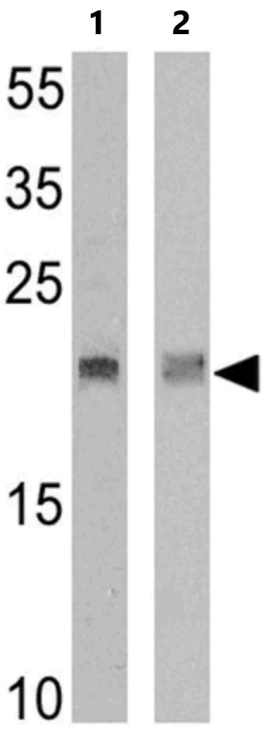
2 product images



Flow Cytometry - Anti-TCR V delta 2 antibody [15D] (ab171103)

TCR V delta 2 Flow Cytometry staining using mouse Anti-TCR V delta 2 antibody

Flow cytometry analysis of TCR V delta 2 on M5 T cells. Equal numbers of cells were stained with a TCR V delta 2 Antibody (15D) monoclonal antibody (ab171103) followed by FITC labeled secondary antibody, or FITC labeled secondary antibody alone. 5 µL of primary antibody were used per test. All antibody incubations were performed for 30 minutes at room temperature. A representative 10,000 cells were acquired for each sample.



Western blot - Anti-TCR V delta 2 antibody [15D] (ab171103)

TCR V delta 2 Western blot staining using mouse Anti-TCR V delta 2 antibody

Western blot analysis of TCR V delta 2 was performed by loading samples onto an SDS polyacrylamide gel. Proteins were transferred to a PVDF membrane and blocked at 4°C overnight. The membrane was probed with primary antibody (ab171103) overnight at 4°C, washed in TBST, and probed with an HRP-conjugated secondary antibody for 1 hr at room temperature in the dark. Chemiluminescent detection was performed using Pierce ECL Plus Western Blotting Substrate.
All lanes:
Western blot - Anti-TCR V delta 2 antibody [15D] (ab171103) at 1/10 dilution

Lane 1:
Jurkat cell lysate at 25 µg

Lane 2:
CEM cell lysate at 25 µg

Observed band size: 19 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.