abcam

ab25209

# Biotin Anti-TCR gamma + TCR delta antibody [UC7-13D5]

Anti-TCR gamma + TCR delta antibody [UC7-13D5] conjugated to Biotin - suitable for flow cytometry, FuncS, IHC-Fr, IP, and reacts with mouse samples. Clone [UC7-13D5] is a Armenian Hamster monoclonal antibody cited in 16 publications.

## Key facts

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| **Isotype** | IgG |
| **Host species** | Armenian hamster |
| **Conjugation** | Biotin |
| **Storage buffer** | pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Clone number** | UC7-13D5 |
| **Purification technique** | Affinity purification |
| **Specificity** | ab25209 is specific for the gamma-delta heterodimer and plate-bound ab25209 activates gamma-delta TCR bearing cells. This antibody does not react with alpha-beta TCR-expressing T cells. |
| **Concentration** | 0.5 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IP

**Expected**

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| **Species** | Mouse |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Flow Cyt

### Expected

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| **Species** | Mouse |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## FuncS

### Expected

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| **Species** | Mouse |
| **Dilution info** | - |
| **Notes** | In vitro activation of gamma-delta TCR-bearing cells and depletion of gamma-delta TCR-expressing cells. |

## IHC-Fr

### Expected

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| **Species** | Mouse |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

# Target data

See full target information Cd3d

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| **Function** | Part of the TCR-CD3 complex present on T-lymphocyte cell surface that plays an essential role in adaptive immune response. When antigen presenting cells (APCs) activate T-cell receptor (TCR), TCR-mediated signals are transmitted across the cell membrane by the CD3 chains CD3D, CD3E, CD3G and CD247/CD3Z. All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain. Upon TCR engagement, these motifs become phosphorylated by Src family protein tyrosine kinases LCK and FYN, resulting in the activation of |

downstream signaling pathways. In addition of this role of signal transduction in T-cell activation, CD3D plays an essential role in thymocyte differentiation. Indeed, participates in correct intracellular TCR-CD3 complex assembly and surface expression. In absence of a functional TCR-CD3 complex, thymocytes are unable to differentiate properly (PubMed:10935641). Interacts with CD4 and CD8 and thus serves to establish a functional link between the TCR and coreceptors CD4 and CD8, which is needed for activation and positive selection of CD4 or CD8 T-cells.

## Storage

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| **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.

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| **Activity summary** | The TCR gamma + TCR delta also known as gamma delta T-cell receptor is a part of the T-cell receptor (TCR) family. It has alternative names like gammadelta TCR or simply TCRδ/γ. The gamma and delta chains form a heterodimer that is part of the cell surface receptor complex. This complex is important for ligand recognition and immune response. The mass of the TCR gamma and TCR delta chains is not specified but they form between ZAP-70 and the CD3 complex on the surface of a subset of T-cells. These receptors are mainly expressed on gamma delta T-cells which are a minor population of T-cells in peripheral blood but more abundant in mucosal tissues and epithelial layers. |
| **Biological function summary** | TCR gamma and TCR delta are involved in recognizing antigens without presentation by major histocompatibility complex (MHC) molecules. The receptor complex allows these cells to respond to a diverse range of non-peptide antigens mostly derived from microbial origin including phosphoantigens and lipids. This enables gamma delta T-cells to bridge innate and adaptive immunity. They do not always require antigen processing and can recognize antigens directly contributing efficiently to immune surveillance and early response to infections and cellular stress. |

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| **Pathways** | TCR gamma and TCR delta are important in the signaling networks that mediate immune responses. They are involved in pathways such as the nuclear factor of activated T-cells (NFAT) and mitogen-activated protein kinase (MAPK) pathways. These pathways promote the activation proliferation and differentiation of T-cells upon antigen recognition. The TCR complex including CD3 plays a role in these signal transduction events and ZAP-70 a protein tyrosine kinase is key for initiating these pathways upon TCR activation. |
| **Associated diseases and disorders** | Mutations or dysregulation in TCR gamma and TCR delta can lead to immune-related conditions. For example abnormalities in these receptors have been linked to autoimmune diseases such as celiac disease and multiple sclerosis. Their role in these disorders is related to faulty recognition and response to autoantigens leading to inappropriate immune responses. Additionally gamma delta T-cells and their receptors are of interest in cancer research as they participate in tumor immunosurveillance. Connections with molecules like CD3 and ZAP-70 facilitate ongoing exploration for therapeutic interventions targeting immune-related pathologies. |

## 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.

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