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

# CD3e (T-Cell Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone CRIS-7 ]
Catalog # AH12595

## Product Information

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|---|---|
| **Application** | IF, FC |
| **Primary Accession** | P07766 |
| **Other Accession** | 916, 3003 |
| **Reactivity** | Human, Monkey |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | Mouse / IgG2a, kappa |
| **Clone Names** | CRIS-7 |
| **Calculated MW** | 23147 |

## Additional Information

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| **Gene ID** | 916 |
| **Other Names** | T-cell surface glycoprotein CD3 epsilon chain, T-cell surface antigen T3/Leu-4 epsilon chain, CD3e, CD3E, T3E |
| **Application Note** | IF~~1:50~200 FC~~1:10~50 |
| **Storage** | Store at 2 to 8°C.Antibody is stable for 24 months. |
| **Precautions** | CD3e (T-Cell Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | CD3E |
| **Synonyms** | T3E |
| **Function** | Part of the TCR-CD3 complex present on T-lymphocyte cell surface that plays an essential role in adaptive immune response (PubMed:15294938, PubMed:15546002, PubMed:2470098, PubMed:40592325, PubMed:8490660). 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 (PubMed:2470098, PubMed:40592325). All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain (PubMed:2470098, PubMed:40592325). Upon TCR engagement, these motifs become phosphorylated by Src family protein tyrosine kinases LCK and FYN, resulting in the activation of downstream signaling pathways (PubMed:2470098, |

PubMed:40592325). CD3E ITAM phosphorylation creates docking sites for the protein kinase ZAP70 leading to ZAP70 phosphorylation and its conversion into a catalytically active enzyme (By similarity). In addition of this role of signal transduction in T-cell activation, CD3E plays an essential role in correct T-cell development (By similarity). Also participates in internalization and cell surface down-regulation of TCR-CD3 complexes via endocytosis sequences present in CD3E cytosolic region (PubMed:10384095, PubMed:26507128). In addition to its role as a TCR coreceptor, it serves as a receptor for ITPRIPL1 (PubMed:38614099). Ligand recognition inhibits T-cell activation by promoting interaction with NCK1, which prevents CD3E-ZAP70 interaction and blocks the ERK- NFkB signaling cascade and calcium influx (PubMed:12110186, PubMed:38614099).

**Cellular Location** Cell membrane; Single-pass type I membrane protein

## Background

Recognizes the -chain of CD3 (Workshop V; Code: CD03.09), which consists of five different polypeptide chains (designated as γ, δ, ε, ζ, and η) with MW ranging from 16-28kDa. The CD3 complex is closely associated at the lymphocyte cell surface with the T cell antigen receptor (TCR). Reportedly, CD3 complex is involved in signal transduction to the T cell interior following antigen recognition. The CD3 antigen is first detectable in early thymocytes and probably represents one of the earliest signs of commitment to the T cell lineage. In cortical thymocytes, CD3 is predominantly intra-cytoplasmic. However, in medullary thymocytes, it appears on the T cell surface. CD3 antigen is a highly specific marker for T cells, and is present in majority of T cell neoplasms.

## References

McMichael AJ et al. (eds) Leukocyte Typing III, Oxford University Press, Oxford, 1987. Knapp W et al. (eds) Leukocyte Typing IV, p245 and 1059, Oxford University Press, Oxford, 1989 | Schlossman S et al. (eds) Leukocyte Typing V. Oxford University Press, Oxford, 1995. | Alberola-Ila J et al. Stimulation through the TCR/CD3 complex up-regulates the CD2 surface expression on human T lymphocytes. J Immunol 1991, 146(4):108

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