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# APC Anti-Human CD3 (UCHT1)

Catalog # APR11657

## Product Information

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|---|---|
| **Application** | Functional assay, Kinetics (SPR), Kinetics (BLI), FACS, E, FTA |
| **Primary Accession** | P07766 |
| **Reactivity** | Human |
| **Clonality** | Monoclonal |
| **Isotype** | Mouse IgG2b Fc slience |
| **Calculated MW** | 23147 |

## Additional Information

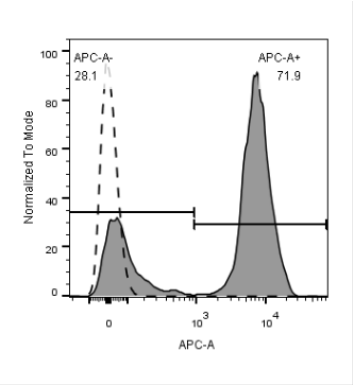
| | |
|---|---|
| **Target/Specificity** | CD3 |
| **Expression system** | CHO |

## 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

## Images




Human peripheral blood
lymphocytes are stained with APC Anti-Human CD3 (UCHT1) (filled black histogram) or APC Mouse IgG2 b Fc Slience Isotype Control (dashed-line open histo gram)

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