

**In Vivo Ready™ Anti-Human CD3 (UCHT1) Antibody**  
Catalog # ATB10140**Specification**

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**In Vivo Ready™ Anti-Human CD3 (UCHT1) Antibody - Product Information**

Application	WB, IHC-F, IF, FC, IP, FA
Isotype	Mouse IgG1, kappa
Concentration	2 mg/mL
Reactivity	Human
Formulation	10 mM NaH <sub>2</sub> PO <sub>4</sub> , 150 mM NaCl, pH7.2
Host	Mouse

**In Vivo Ready™ Anti-Human CD3 (UCHT1) Antibody - Additional Information**

Gene ID	915
Gene Name	CD3D
<b>Alternative Name(s)</b>	
Leu-4, T3	

**Format**

In Vivo Ready™

**Preparation**

This monoclonal antibody preparation was purified from tissue culture supernatant via affinity chromatography. For In Vivo Ready™ (IVR) products, each preparation is also evaluated for endotoxin levels using the LAL assay. It is recommended to store the product undiluted at 4°C. Do not freeze.

**Application Notes**

This purified format is guaranteed to be >90% pure as determined by SDS-PAGE analysis. Citations are provided as a convenience to you - please consult Materials and Methods sections for additional details about the use of any product in these publications.

**Endotoxin Level**

Less than or equal to 0.01 EU/ug, as determined by the LaL assay

**Storage Conditions**

2-8°C

**In Vivo Ready™ Anti-Human CD3 (UCHT1) Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)

- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **In Vivo Ready™ Anti-Human CD3 (UCHT1) Antibody - Images**

### **In Vivo Ready™ Anti-Human CD3 (UCHT1) Antibody - Background**

The UCHT1 antibody is specific for human CD3e, also known as CD3 epsilon, a 20 kDa subunit of the T cell receptor complex, along with CD3 gamma and CD3 delta. These integral membrane protein chains assemble with additional chains of the T cell receptor (TCR), as well as CD3 zeta chain, to form the T cell receptor - CD3 complex. Together with co-receptors CD4 or CD8, the complex serves to recognize antigens bound to MHC molecules on antigen-presenting cells. These interactions promote T cell receptor signaling (T cell activation), inducing cell proliferation, differentiation, production of cytokines or activation-induced cell death. CD3 is differentially expressed during thymocyte-to-T cell development and on all mature T cells. The UCHT1 antibody is a widely used phenotypic marker for human T cells. In addition, binding/cross-linking of UCHT1 antibody to CD3e can induce cell activation. A recent publication of the crystal structure of a CD3e-antibody complex provides insight as to the action of commonly used agonist antibodies, as well as specific epitope-binding data for the human CD3 antibodies UCHT1 and OKT3 (Fernandes, R.A. et al. 2012. J. Biol. Chem. 287: 13324-13335). UCHT1 antibody reacts with both surface-expressed and intracellular CD3e protein, in contrast to an alternative human CD3 clone, HIT3a, which will stain only the extracellular (membrane-expressed) CD3e protein. Also, the UCHT1 antibody is reported to be cross-reactive with chimpanzee and has been used for phenotypic analysis of expression by flow cytometry; however the antibody is reported to be unsuitable for induction of T cell activation in this species (Bibollet-Ruche et al. 2009. J. Virol. 82: 10271-10278).