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

Catalog # ATB10140

Specification

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 NaH2PO4, 150 mM NaCl, pH7.2**
Host	**Mouse**

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

Gene ID	**915**
Gene Name	**CD3D**

Alternative Name(s)
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 Cytomety
- 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).