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**Not for use in diagnostic procedures.**

### SPECIFICITY

T lymphocytes constitute the majority of human peripheral blood lymphocytes (PBL).<sup>1</sup> Two exclusive types of T lymphocytes can be defined by the structure of their T cell receptor (TcR) heterodimer expressed: TcR  $\alpha/\beta$ , mainly represented, and TcR  $\gamma/\delta$ .<sup>2</sup> Furthermore, T lymphocytes are characterized by the expression of the CD3 antigen and are commonly divided into two subsets: "helper/ inducer" (or Th) lymphocytes expressing CD4 antigen and "suppressor/cytotoxic" (or Tc) lymphocytes expressing the CD8 molecule.<sup>1,3</sup> The CD3 antigen is a complex of 5 polypeptide chains:  $\alpha$ ,  $\beta$ ,  $\epsilon$ ,  $\zeta$  and  $\eta$  associated with the TcR. These chains are composed by a group of two invariant dimers,  $\gamma-\epsilon$  and  $\delta-\epsilon$  associated with a variable dimer. These consist of homodimers, or  $\zeta-\eta$ , or  $\zeta-\gamma$ FcR heterodimers, or  $\gamma$ FcR homodimers ( $\gamma$ FcR is the  $\gamma$  chain of the Fc receptors).<sup>2,4,5</sup>

The CD3 complex associated with the TcR is involved in the recognition of peptides bound to the major histocompatibility complex I and II (MHC) during the immune response.<sup>6</sup> The CD3 antigen is expressed by mature T lymphocytes and by a subset of thymocytes.<sup>7</sup> In human PBL, approximately 67 to 76% of the lymphocytes are CD3+. The range of percentage is lower during childhood and may vary with aging.<sup>1</sup>

The UCHT1 monoclonal antibody reacts with the  $\epsilon$  chain of the CD3 complex.<sup>8</sup> This clone is also suitable for the immunodetection of cytoplasmic CD3 on formaldehyde/saponin-permeabilized leucocytes by flow cytometry.<sup>9,10</sup> The UCHT1 monoclonal antibody has been assigned to the CD3 cluster of differentiation at the 1st International Workshop on Human Leucocyte Differentiation Antigens in Paris (1984).<sup>11</sup>

### REAGENTS

IOtest CD3-PC7 Conjugated Antibodies  
PN 6607100 - 100 tests - 10  $\mu$ L/test

**CLONE:** UCHT1

**ISOTYPE:** IgG1

**IMMUNOGEN:** Peripheral blood lymphocytes

**HYBRIDOMA:** NS1 x BALB/c

**SOURCE:** Conditioned media

**PURIFICATION:** Affinity chromatography

**CONJUGATION:** PC7 is conjugated at a Molar Ratio PC7/Ig: 0.5-1.5.

Excitation wavelength at 486-580 nm

Emission wavelength at 710-800 nm

**BUFFER:** 2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide

### STATEMENT OF WARNINGS

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Use Good Laboratory Practices (GLP) when handling reagent.
7. Harmful if swallowed.
8. After contact with skin, wash immediately with plenty of water.

### STORAGE CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2-8°C. Do not freeze. Minimize exposure to light.

### REAGENT PREPARATION

No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18-25°C prior to use.

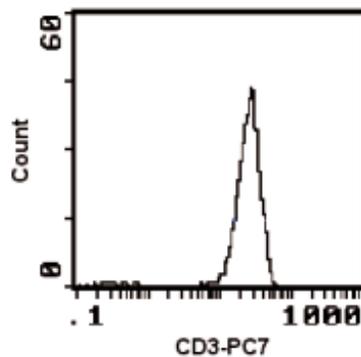
### PROCEDURE

This reagent is designed for flow cytometry. Assay volume; 10  $\mu$ L per  $5 \times 10^5$  cells in one test, or per 100  $\mu$ L whole blood. A wash is required to yield optimal results.

### EXAMPLE DATA

The histogram shown is a monoparametric representation (Count versus Fluorescence Intensity) of lysed normal whole blood sample stained with CD3-PC7 monoclonal antibody (PN 6607100) and gated on lymphocytes.

**Figure 1:**  
**Acquisition with a COULTER® EPICS® XL™ and XL-MCL™ flow cytometer.**



### SELECTED RESEARCH REFERENCES

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Printed in USA  
Made in USA

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