

## Datasheet: 4C007

<b>Description:</b>	FOUR-COLOR HUMAN CD3/CD16+CD56/CD45/CD19 FLOW KIT
<b>Specificity:</b>	CD3/CD16/CD56/CD45/CD19
<b>Format:</b>	4 Color
<b>Product Type:</b>	Four Color Reagent
<b>Clone:</b>	UCHT1 / LNK16 / MEM-188 / F10-89-4 / LT19
<b>Isotype:</b>	Cocktail
<b>Quantity:</b>	50 TESTS/0.5ml

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	■			Neat

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

### Target Species

Human

### Product Form

Four color combination consisting of PERCP, FITC, RPE and APC conjugated monoclonal antibodies mixed in optimal ratio - lyophilised.

PERCP conjugated CD3 (Mouse IgG1)  
 FITC conjugated CD16/CD56 (Mouse IgG1, IgG2a)  
 RPE conjugated CD45 (Mouse IgG2a)  
 APC conjugated CD19 (Mouse IgG1)

### Reconstitution

Reconstitute with 0.5ml distilled water

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	APC	650	661
	FITC	490	525
	PerCP	490	675
	RPE 488nm laser	496	578
	RPE 561nm laser	546	578

### Buffer Solution

Phosphate buffered saline

### Preservative

0.09% Sodium Azide

### Stabilisers

1% Bovine Serum Albumin  
 5% Sucrose

**External Database  
Links**

**UniProt:**

[P08575](#) [Related reagents](#)  
[P07766](#) [Related reagents](#)  
[O75015](#) [Related reagents](#)  
[P08637](#) [Related reagents](#)  
[P13591](#) [Related reagents](#)  
[P15391](#) [Related reagents](#)

**Entrez Gene:**

[5788](#) PTPRC [Related reagents](#)  
[916](#) CD3E [Related reagents](#)  
[930](#) CD19 [Related reagents](#)  
[2214](#) FCGR3A [Related reagents](#)  
[2215](#) FCGR3B [Related reagents](#)  
[4684](#) NCAM1 [Related reagents](#)

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**Synonyms**

CD16A, CD16B, CD45, FCG3, FCGR3, IGFR3, NCAM, T3E

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**Specificity**

Four-Color Human CD3/CD16+CD56/CD45/CD19 Flow Kit can be used for single-step identification of T-cells (CD3+), B-cells (CD3-CD19+) and NK cells (CD3-CD16+ and/or CD56+), useful in the study of NK-mediated cytotoxicity against malignant and virally infected cells and the characterization and monitoring of immunodeficiency and autoimmune diseases. CD45 is a 180-240 kDa complex glycoprotein and member of the protein-tyrosine phosphatase family, otherwise known as leucocyte common antigen (LCA), and is expressed on all haematopoietic cells with the exception of mature erythrocytes and platelets. CD45 is a complex molecule existing in a number of isoforms including CD45RA and CD45RO. Clone F10-89-4 reacts with all isoforms. CD3 is a member of the immunoglobulin superfamily, which acts as a mediator of signal transduction, through association with the  $\alpha/\beta$  or  $\gamma/\delta$  T-cell receptor (TCR). Mammalian CD3 is a multimeric protein composed of four distinct polypeptide chains ( $\epsilon$ ,  $\gamma$ ,  $\delta$ ,  $\theta$ ), consisting of two heterodimers ( $\epsilon\gamma$ ,  $\epsilon\delta$ ) and one homodimer ( $\theta\theta$ ). CD3 is expressed by a high-percentage of circulating peripheral T-cells and is considered a pan T-cell marker. Clone UCHT1 specifically recognizes the ~20 kDa CD3 $\epsilon$  chain. CD19 is a member of the immunoglobulin super family, which acts as a critical signal transduction molecule and regulator of B-cell development, differentiation and activation. CD19 is expressed on follicular dendritic cells and B-cells, from earliest recognizable B-lineage cells to B-cell blasts, but is lost on maturation to plasma cells. As such, CD19 is a commonly used pan B-cell marker. CD16/CD56, used in combination, facilitate the identification of natural killer (NK) cell sub-populations which express CD16+/CD56+, CD16+/CD56- or CD16-/CD56+ but lack CD3 and T-cell receptor (TCR) expression. There are important functional differences between these NK cell subsets. CD16-/CD56+(bright) cells, a minority in peripheral blood but representing the majority of NK cells in secondary lymphoid tissues, exhibit a high cytokine production capacity but are less effective at mediating antibody-dependent cellular cytotoxicity (ADCC) and natural NK cytotoxicity than other subsets.

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**Flow Cytometry**

Use 10ul of the suggested working dilution to label  $1 \times 10^6$  cells in 100ul.

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**Storage**

Prior to reconstitution store at +4°C.  
After reconstitution store at +4°C.  
DO NOT FREEZE.  
This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.

**Shelf Life** 12 months from date of reconstitution.

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**Health And Safety Information** Material Safety Datasheet documentation #10075 available at:  
10075: <https://www.bio-rad-antibodies.com/uploads/MSDS/10075.pdf>

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**Regulatory** For research purposes only

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## Related Products

### Recommended Useful Reagents

[FLOW CYTOMETRY ABSOLUTE COUNT STANDARD™ \(FCSC580\)](#)

[ERYTHROLYSE RED BLOOD CELL LYSING BUFFER \(10x\) \(BUF04B\)](#)

[ERYTHROLYSE RED BLOOD CELL LYSING BUFFER \(10x\) \(BUF04C\)](#)

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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