

## Datasheet: 4C002

<b>Description:</b>	FOUR-COLOR HUMAN CD45RA/CD45RO/CD3/CD4 FLOW KIT
<b>Specificity:</b>	CD45RA/CD45RO/CD3/CD4
<b>Format:</b>	4 Color
<b>Product Type:</b>	Four Color Reagent
<b>Clone:</b>	F8-11-13 / UCHL1 / UCHT1 / RPA-T4
<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 FITC, RPE, RPE-Cy5.5 and APC conjugated monoclonal antibodies mixed in optimal ratio - lyophilised.

FITC conjugated CD45RA (Mouse IgG1)  
 RPE conjugated CD45RO (Mouse IgG2a)  
 RPE-Cy5.5 conjugated CD3 (Mouse IgG1)  
 APC conjugated CD4 (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
	RPE 488nm laser	496	578
	RPE 561nm laser	546	578
	RPE-Cy5.5 488nm laser	496	695
	RPE-Cy5.5 561nm laser	546	695

<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Stabilisers</b>	1% Bovine Serum Albumin 5% Sucrose
<b>External Database Links</b>	<p><b>UniProt:</b></p> <p><a href="#">P08575</a>    <a href="#">Related reagents</a></p> <p><a href="#">P07766</a>    <a href="#">Related reagents</a></p> <p><a href="#">P01730</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b></p> <p><a href="#">5788</a>    PTPRC    <a href="#">Related reagents</a></p> <p><a href="#">916</a>    CD3E    <a href="#">Related reagents</a></p> <p><a href="#">920</a>    CD4    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	CD45, T3E
<b>Specificity</b>	<p><b>Four-Color Human CD45RA/CD45RO/CD3/CD4 Flow Kit</b> can be used for single-step identification of human helper/inducer naïve (CD3+CD4+CD45RA+) and helper/inducer memory (CD3+CD4+CD45RO+) T-cell subsets.</p> <p>CD3 is a member of the immunoglobulin superfamily, which acts as a mediator of signal transduction, through association with the <math>\alpha/\beta</math> or <math>\gamma/\delta</math> T-cell receptor (TCR). Mammalian CD3 is a multimeric protein composed of four distinct polypeptide chains (<math>\epsilon</math>, <math>\gamma</math>, <math>\delta</math>, <math>\zeta</math>), consisting of two heterodimers (<math>\epsilon\gamma</math>, <math>\epsilon\delta</math>) and one homodimer (<math>\zeta\zeta</math>). 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<math>\epsilon</math> chain.</p> <p>CD4 is a single chain transmembrane glycoprotein and member of the immunoglobulin superfamily, which interacts directly with class II molecules of the major histocompatibility complex (MHCII), and is the primary receptor for the human immunodeficiency virus (HIV). CD4 is expressed by the helper/inducer (CD3+CD4+) T-cell subset, the majority of thymocytes, and at low levels by monocytes and tissue macrophages. The CD4 lymphocyte count provides an excellent indication of immune system health. Clone RPA-T4 binds to the D1 domain (CDR1 and CDR3 epitopes) of the CD4 antigen.</p> <p>CD45RA is an isoform of CD45, a member of the protein tyrosine phosphatase family, otherwise known as leucocyte common antigen (LCA), which acts as a positive regulator of T-cell co-activation, and is essential for the activation of T-cells through the antigen receptor. CD45RA is expressed by naïve T-cells, but not by activated and memory T-cells. Consequently, clone F8-11-13 can be used to distinguish between these cell populations.</p> <p>CD45RO is the low molecular weight isoform (~180 kDa) of CD45, the leucocyte common antigen (LCA). CD45RO is expressed by approximately 40% of resting peripheral blood T-cells, the majority of activated and memory T-cells and most thymocytes. It is also</p>

expressed on macrophages, monocytes and granulocytes. In combination with clone F8-11-13, clone UCHL1 can be used to discern naïve and memory T-cells.

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<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label $1 \times 10^6$ cells in 100ul.
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<b>Storage</b>	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.
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<b>Guarantee</b>	12 months from date of despatch
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #20487 available at: 20487: <a href="https://www.bio-rad-antibodies.com/uploads/MSDS/20487.pdf">https://www.bio-rad-antibodies.com/uploads/MSDS/20487.pdf</a>
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<b>Regulatory</b>	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 \(BUF070B\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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