

# BD Multitest 6-Color TBNK Reagent

More answers from a single tube

## Features

- Available with and without BD Trucount™ tubes
- Performs lymphocyte enumeration of mature T, B, and NK cells in a single tube
- Works in a fully integrated system with BD FACSTM Sample Prep Assistant (SPA) for automated lyse/no-wash sample preparation
- Can be used with the BD FACSTM Loader for automated sample acquisition on a BD FACSCanto™ instrument
- Works with BD FACSCanto™ clinical software for instrument setup, QC, acquisition, and analysis with built-in templates

## Antibodies

The BD Multitest 6-color TBNK reagent contains the following antibodies to identify and enumerate the different (T, B, and NK) lymphocyte subsets:

- CD3 FITC for the identification of T lymphocytes
- CD16 and CD56 PE for identifying NK lymphocytes
- CD45 PerCP-Cy™5.5 to allow for gating on the lymphocyte populations
- CD4 PE-Cy™7 for detecting T helper/inducer lymphocytes
- CD19 APC to identify B lymphocytes
- CD8 APC-Cy7 for the identification of the suppressor/cytotoxic T lymphocyte subset

BD Multitest™ 6-color TBNK reagent provides a reliable, cost effective, and easy-to-use solution for multicolor flow cytometric analysis of lymphocyte subsets.

The BD Multitest 6-color TBNK reagent (50 tests) determines absolute counts and percentages of mature T, B, and NK lymphocyte populations as well as CD4<sup>+</sup> and CD8<sup>+</sup> T-cell subset ratios in human peripheral blood, all in a single tube.

Percentages and absolute counts of T and B lymphocytes and ratio of helper/inducer versus suppressor/cytotoxic T cells provide valuable information on immune status for a number of patient conditions. CD4<sup>+</sup> helper/inducer T lymphocyte counts are used for monitoring disease progression and therapy efficiency in Human Immunodeficiency Virus (HIV)-infected individuals.<sup>1</sup> Certain forms of autoimmunity have been related to percentages of CD8<sup>+</sup> suppressor/cytotoxic T lymphocytes that lie outside the normal reference range.<sup>2</sup> NK lymphocytes have been shown to mediate cytotoxicity against certain tumors and virus-infected cells.

The TBNK reagent defines NK cells by analyzing the expression of the CD16 and CD56 simultaneously using the same conjugation to allow for a more precise diagnosis than using the CD56 marker only.<sup>3</sup>

## An easy-to-use solution

With its single-tube format, the BD Multitest 6-color TBNK reagent considerably reduces sample processing time. The reagent includes a cocktail of multiple fluorescently labeled monoclonal antibodies, premixed at the appropriate titer to ensure quality staining.

## Simple procedure

1. Add whole blood to a 12 x 75-mm BD Falcon™ polystyrene tube or BD Trucount tube.
2. Add BD Multitest 6-color TBNK reagent, vortex, and incubate.
3. Add BD FACSTM lysing solution and incubate.
4. Acquire and analyze with BD FACSCanto clinical software.

## Improve safety, reduce hands-on time

The BD 6-color TBNK reagent employs a no-wash formula that simplifies sample preparation and reduces tube handling. Processing fewer tubes in less time may decrease potential exposure to biohazardous material, improving safety for laboratory personnel.

## Increase productivity

Multicolor analysis provides more answers from a single tube and decreases costs by reducing the number of tubes and reagents required. Together with the BD FACSCanto or BD FACSCanto™ II flow cytometer and BD FACSCanto clinical software, the Loader option and the SPA, the BD Multitest 6-color TBNK reagent provides high performance for lymphocyte enumeration to best suit your routine immunophenotyping needs. BD FACSTM 7-color setup beads enable fast and convenient fully automated instrument setup.

Visit [bdbiosciences.com](http://bdbiosciences.com) for more information.



# BD Multitest 6-Color TBNK Reagent with BD Trucount Tubes

Absolute counts of multiple lymphocyte subsets from a single tube. As easy as 1-2-3.



Featuring a convenient lyse/no-wash procedure together with established BD Trucount™ bead technology, the BD Multitest 6-color TBNK reagent with BD Trucount tubes brings you the most efficient approach to routine multicolor flow cytometric immunophenotyping yet available.

### Accurate cell counts with BD Trucount tubes

BD Trucount tubes ensure more accurate cell counts. The tubes contain a lyophilized pellet of fluorescent beads that serves as an internal standard. BD FACSCanto clinical software (v2.0 or later) automatically calculates lymphocyte absolute counts and subset percentages (Figure 1).

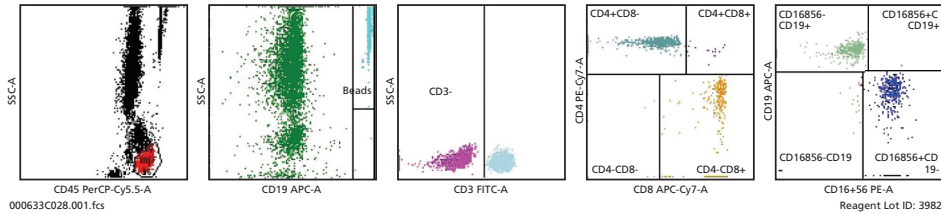
|                                  |             |             |
|----------------------------------|-------------|-------------|
| <b>P100721V02 07</b>             |             |             |
| Director: RV/TF                  |             |             |
| Panel: 6 Color TBNK + TruC       |             |             |
| Acquired: 07/21/2005 4:13:20 PM  |             |             |
| Analyzed: 10/18/2005 11:08:05 AM |             |             |
| TruC Lot ID: 11806               |             |             |
| Bead/Pellet: 49945               |             |             |
| Status: OK                       |             |             |
| Operator: SS                     |             |             |
| Reviewer:                        |             |             |
| Results: 18102005.csv            |             |             |
| Parameter                        | Column # 2: | Column # 3: |

BD FACSCanto V0002

BD FACSCanto v.20

### CD3/CD16+56/CD45/CD4/CD19/CD8 TruC

Total Events: 10068



| Parameter  | Percent | Value/AbsCnt |
|--|---------|--------------|
| Lymph Events                                       |         | 2714         |
| Bead Events  |         | 1544         |
| CD3 <sup>+</sup>                                   | 66.76   | 1171.51      |
| CD3 <sup>+</sup> CD8 <sup>+</sup>                  | 14.41   | 252.79       |
| CD3 <sup>+</sup> CD4 <sup>+</sup>                  | 52.51   | 921.30       |
| CD3 <sup>+</sup> CD4 <sup>+</sup> CD8 <sup>+</sup> | 0.63    | 10.99        |
| CD16 <sup>+</sup> CD56 <sup>+</sup>                | 16.80   | 294.82       |
| CD19 <sup>+</sup>                                  | 15.84   | 278.01       |
| CD45 <sup>+</sup>                                  |         | 1754.68      |
| 4/8 Ratio  |         | 3.64         |

### QC Messages

% T-Sum is: 0.16  
Lymphosum is: 99.40  
4/8 ratio is: 3.64

Figure 1. Example of data from a BD FACSCanto laboratory report obtained for a BD Multitest 6-color TBNK assay with BD Trucount tubes.

### Ordering Information

| Description   | Apps | Reg | Size     | Cat.No. |
|---|------|-----|----------|---------|
| BD Multitest™ 6-color TBNK Reagent with BD Trucount Tubes | FCM  | IVD | 50 tests | 337166  |

# BD Multitest 6-Color TBNK Reagent without BD Trucount Tubes

Reagents tailored to your analysis needs



BD Multitest 6-color TBNK reagent is now also available without BD Trucount tubes. BD FACSCanto clinical software (v2.4) calculates lymphocyte subset percentages directly from the sample flow data (Figure 2).

### Quality you can count on

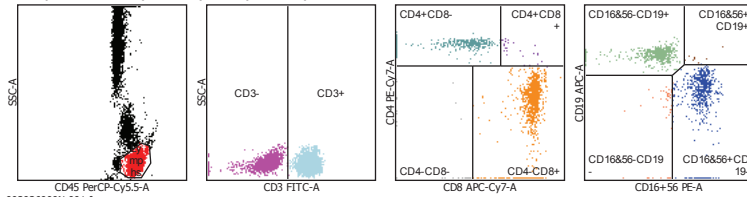
BD reagents are manufactured and tested to meet our high standards of purity, stability, low background, and lot-to-lot consistency. Expect high quality, accurate results, and a performance level equal to the BD Multitest 6-color TBNK reagent with BD Trucount tubes option.

|               |  |           |                      |
|---------------|--|-----------|----------------------|
| <b>003936</b> |  | Panel:    | 6 Color TBNK         |
| Director: KH  |  | Acquired: | 12/3/2008 3:28:56 PM |
|               |  | Analyzed: | 12/3/2008 3:28:56 PM |
|               |  | Status:   | OK                   |
|               |  | Operator: | PL                   |
|               |  | Reviewer: |                      |
|               |  | Results:  | 03122008.csv         |

WBC Count (x1000)      Lymphs (%):      Lymphs (x1000):  
 BD FACSCanto II V96300005      BD FACSCanto v.2.4.3365.10840

CD3/CD16+56/CD45/CD4/CD19/CD8

Total Events: 10045



Reagent Lot ID: 24771

| Parameter  | Percent | Value/AbsCnt |
|--|---------|--------------|
| Lymph Events                                       |         | 4984         |
| CD3 <sup>+</sup>                                   | 74.04   | 0            |
| CD3 <sup>+</sup> CD8 <sup>+</sup>                  | 34.13   | 0            |
| CD3 <sup>+</sup> CD4 <sup>+</sup>                  | 39.35   | 0            |
| CD3 <sup>+</sup> CD4 <sup>+</sup> CD8 <sup>+</sup> | 0.50    | 0            |
| CD16 <sup>+</sup> CD56 <sup>+</sup>                | 11.96   | 0            |
| CD19 <sup>+</sup>                                  | 12.90   | 0            |
| CD45 <sup>+</sup>                                  |         | 0            |
| 4/8 Ratio  |         | 1.15         |

### QC Messages

% T-Sum is: 0.56  
 Lymphosum is: 98.90  
 4/8 ratio is: 1.15

Figure 2. Example of data from a BD FACSCanto laboratory report obtained for a BD Multitest 6-color TBNK assay without BD Trucount tubes.

### Ordering Information

| Description  | Apps | Reg | Size     | Cat.No.       |
|--|------|-----|----------|---------------|
| <b>BD Multitest 6-color TBNK Reagent without BD Trucount Tubes</b> | FCM  | IVD | 50 tests | <b>644611</b> |

Note: The BD Multitest 6-color TBNK reagent without BD Trucount tubes is used on the BD FACSCanto and BD FACSCanto II systems with BD FACSCanto software v2.4 and later.

# BD Multitest 6-Color TBNK Reagent

## References:

1. Giorgi JV, Detels, R. T-cell subset alterations in HIV-infected homosexual men: NIAID Multicenter AIDS cohort study. *Clin Immunol Immunopathol.* 1989;52:10-18.
2. Antel J, Bania M, Noronha A, Neely S. Defective suppressor cell function mediated by T8+ cell lines from patients with progressive multiple sclerosis. *J Immunol.* 1986;137:3436-3439.
3. Brunetta E, Fogli M, Varchetta S, Bozzo L, et al. The decreased expression of Siglec-7 represents an early marker of dysfunctional natural killer-cell subsets associated with high levels of HIV-1 viremia. *Blood.* 2009;114:3822-3830.



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