

# Technical Data Sheet

## BV605 Rat Anti-Mouse CD4

### Product Information

|                    |   |
|--------------------|---|
| Material Number:   | 743156  |
| Size:              | 50 µg   |
| Clone:             | GK1.5   |
| Alternative Name:  | Cd4; CD4 antigen; L3T4; Ly-4; T-cell surface antigen T4/Leu-3 |
| Reactivity:        | Mouse (Tested in Development)                                 |
| Isotype:           | Rat LEW, also known as Lewis IgG2b, κ                         |
| Immunogen:         | Mouse CTL clone V4  |
| Application:       | Flow cytometry (Qualified)                                    |
| Concentration:     | 0.2 mg/ml   |
| Entrez Gene ID:    | 12504   |
| Storage Buffer:    | Aqueous buffered solution containing ≤0.09% sodium azide.     |
| Regulatory Status: | RUO   |

### Description

The GK1.5 monoclonal antibody specifically binds to the mouse CD4 (L3T4) differentiation antigen. CD4 is expressed on most thymocytes, a subpopulation of mature T lymphocytes (i.e., MHC class II-restricted T cells, including most T helper cells), and a subset of NK-T cells. In addition, CD4 has also been reported to be detectable on pluripotent hematopoietic stem cells, bone marrow myeloid and B-lymphocyte precursors, intrathymic lymphoid precursors, and a subset of splenic dendritic cells. CD4 has also been reported to be expressed on the plasma membrane of mouse egg cells and is involved in adhesion of the egg to MHC class II-bearing sperm. CD4 is an antigen coreceptor on the T-cell surface which interacts with MHC class II molecules on antigen-presenting cells. It participates in T-cell activation through its association with the T-cell receptor complex and protein tyrosine kinase lck. The GK1.5 antibody reportedly blocks binding of the RM4-5 and H129.19, but not RM4-4 mouse CD4-specific antibodies.

This antibody is conjugated to BD Horizon™ BV605 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max of 602-nm, BD Horizon BV605 can be excited by a violet laser and detected with a standard 610/20-nm filter set. BD Horizon BV605 is a tandem fluorochrome of BD Horizon BV421 and an acceptor dye with an Em max at 605-nm. Due to the excitation of the acceptor dye by the green (532 nm) and yellow-green (561 nm) lasers, there will be significant spillover into the PE and BD Horizon PE-CF594 detectors off the green or yellow-green lasers. BD Horizon BV605 conjugates are very bright, often exhibiting brightness equivalent to PE conjugates and can be used as a third color off of the violet laser.

### Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze. The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. The antibody was conjugated with BD Horizon BV605 under optimal conditions that minimize unconjugated dye and antibody.

### Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

### Suggested Companion Products

| Catalog Number | Name                   | Size      | Clone |
|----------------|------------------------|-----------|-------|
| 554656         | Stain Buffer (FBS)     | 500 mL    |       |
| 554657         | Stain Buffer (BSA)     | 500 mL    |       |
| 563794         | Brilliant Stain Buffer | 100 Tests |       |
| 555899         | Lysing Buffer          | 100 mL    |       |

|        |  |        |        |
|--------|--|--------|--------|
| 553141 | Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) | 0.1 mg | 2.4G2  |
| 563145 | BV605 Rat IgG2b, κ Isotype Control                     | 50 µg  | R35-38 |

## Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [wwwbdbiosciences.com/colors](http://wwwbdbiosciences.com/colors).
7. Please refer to [wwwbdbiosciences.com/us/s/resources](http://wwwbdbiosciences.com/us/s/resources) for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Violet 605 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.

## References

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