

# Technical Data Sheet

## BV711 Rat Anti-Mouse CD14

### Product Information

Material Number:	740692
Size:	50 µg
Clone:	rmC5-3
Alternative Name:	Cd14; CD14 antigen; Myeloid cell-specific leucine-rich glycoprotein
Reactivity:	Mouse (Tested in Development)
Isotype:	Rat LOU, also known as Louvain, LOU/C, LOU/M IgG1, κ
Immunogen:	Recombinant Mouse CD14
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	12475
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### Description

The rmC5-3 monoclonal antibody specifically binds to residues 308-322 of the hydrophilic region of mouse CD14. CD14 is a 53-55 kDa glycoposphatidylinositol (GPI)-linked glycoprotein belonging to the leucine-rich glycoprotein repeat superfamily of cell-surface proteins. It is a receptor for the complex of lipopolysaccharide (LPS or endotoxin, from gram-negative bacteria) with LPS-binding protein (LBP, a plasma protein). CD14 serves as a receptor for LPS that can play a role in the cellular production of proinflammatory cytokines such as IL-1 and TNF. CD14 can be involved in the development of endotoxic shock and LPS-stimulated bone resorption, and promotes, possibly indirectly, bacterial dissemination. Flow cytometric analysis demonstrates that rmC5-3 antibody stains J774A.1 (mouse macrophage line), WEHI-265.1 (mouse monocytic line), peritoneal resident macrophages, Kupffer cells, and cultured bone marrow-derived macrophages and dendritic cells, but not unstimulated splenic macrophages, dendritic cells, neutrophils, or blood monocytes. This staining pattern is similar to that of the alternate anti-mouse CD14 mAb 4C1/CD14, which recognizes a different CD14 epitope, and differs from that of the human, where CD14 expression is characteristic of circulating monocytes and neutrophils. Therefore, data suggests that CD14 expression by leukocyte populations may differ in mice and humans. Peritoneal cells from naive mice, 3-day thioglycollate-elicited peritoneal exudate, as well as 4-hour LPS-activated peritoneal cells, contain a population of Mac-1 (CD11b)-high cells which double-stain with rmC5-3 antibody. Levels of CD14 expression on Kupffer cells and bone marrow-derived macrophages and dendritic cells of LPS-sensitive mice are increased by in vivo and in vitro LPS treatments, an effect which may be mediated by TNF. Preliminary evidence suggests that CD14 may be up-regulated on mouse blood neutrophils. In agreement with the observations that CD14 is shed from activated human and mouse monocytes, rmC5-3 mAb detects soluble CD14 in the serum of LPS-treated mice in a time-dependent manner.

The antibody was conjugated to BD Horizon™ BV711 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 711-nm. BD Horizon BV711 can be excited by the violet laser and detected in a filter used to detect Cy™5.5 / Alexa Fluor® 700-like dyes (eg, 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

### Preparation and Storage Section

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 BV711 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
563283	BV711 Rat IgG1, $\kappa$ Isotype Control RUO	50 $\mu$ g	
554656	Stain Buffer (FBS) RUO	500 mL	
554657	Stain Buffer (BSA) RUO	500 mL	
563794	Brilliant Stain Buffer RUO	100 Tests	
555899	Lysing Buffer RUO	100 mL	
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) 2.4G2 RUO	0.1 mg	

## 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 711 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.
10. Cy is a trademark of Amersham Biosciences Limited.
11. Alexa Fluor® is a registered trademark of Life Technologies Corporation.

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