

# Technical Data Sheet

## BV750 Mouse Anti-Human CD16

### Product Information

Material Number:	747461
Size:	50 µg
Clone:	3G8
Alternative Name:	CD16;CD16A;FCGR3A;FcγRIIIA;FcRIIIa;CD16B;FCGR3B;FcγRIIIB;FcRIIIB
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c x DBA/2, also known as CD2F1 or CDF1 IgG1, κ
Immunogen:	Human polymorphonuclear leukocytes
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### Description

The 3G8 monoclonal antibody specifically binds to the 50-65 kDa transmembrane form of the IgG Fc Receptor (FcγRIII), a human NK cell-associated antigen. CD16 is expressed on NK cells as well as macrophages and granulocytes. Reports indicate that CD16 plays a role in signal transduction and NK cell activation. The 3G8 antibody blocks the binding of soluble immune complexes to granulocytes. The 3G8 antibody is reported (Vossebeld et al., 1997) to increase intracellular calcium levels in human neutrophils by interacting with both FcγRIIIa and FcγRIIIb molecules. This antibody has also been reported to induce homotypic neutrophil aggregation.

The antibody was conjugated to BD Horizon™ BV750 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 750-nm. BD Horizon Brilliant BV750 can be excited by the violet laser (405 nm) and detected with a 750/30 nm filter with a 740 nm long pass. Due to spectral differences between labeled cells and beads, using BD™ CompBeads can result in incorrect spillover values when used with BD Horizon BV750 reagents. Therefore, the use of BD CompBeads or BD CompBeads Plus to determine spillover values for these reagents is not recommended.

### 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 to the dye under optimum 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) RUO	500 mL	
554657	Stain Buffer (BSA) RUO	500 mL	
563794	Brilliant Stain Buffer RUO	100 Tests	
555899	Lysing Buffer RUO	100 mL	
566360	BV750 Mouse IgG1, κ Isotype Control RUO	50 µg	
349202	Lysing Solution 10X Concentrate IVD	100 NA	
564219	Human BD Fc Block™ RUO	50 mg	
566349	Brilliant Stain Buffer RUO	1000 Tests	
566385	Brilliant Stain Buffer Plus RUO	1000 Tests	

## Product Notices

1. 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.
2. Researchers should determine the optimal concentration of this reagent for their individual applications.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
6. 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.
7. BD Horizon Brilliant™ Violet 750 is covered by one or more of the following US patents: 8,158,444; 8,802,450; 8,575,303; 8,455,613; 8,227,187; 8,841,072; 8,110,673.
8. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
9. Please refer to [www.bdbiosciences.com/us/s/resources](http://www.bdbiosciences.com/us/s/resources) for technical protocols.

## References

- Fleit HB, Wright SD, Durie CJ, Valinsky JE, Unkeless JC. Ontogeny of Fc receptors and complement receptor (CR3) during human myeloid differentiation. *J Clin Invest.* 1984; 73(2):516-525. (Clone-specific: Flow cytometry).
- Fleit HB, Wright SD, Unkeless JC. Human neutrophil Fc gamma receptor distribution and structure. *Proc Natl Acad Sci U S A.* 1982; 79(10):3275-3279. (Immunogen: Flow cytometry).
- Knapp W. W. Knapp .. et al., ed. *Leucocyte typing IV : white cell differentiation antigens.* Oxford New York: Oxford University Press; 1989; :1-1182.
- Perussia B, Trinchieri G, Jackson A, et al. The Fc receptor for IgG on human natural killer cells: phenotypic, functional, and comparative studies with monoclonal antibodies. *J Immunol.* 1984; 133(1):180-189. (Clone-specific: Flow cytometry).
- Schmidt RE. Non-lineage/natural killer section report: new and previously defined clusters. In: Knapp W. W. Knapp .. et al., ed. *Leucocyte typing IV : white cell differentiation antigens.* Oxford New York: Oxford University Press; 1989; :517-542.
- Stroncek DF, Skubitz KM, Plachta LB, et al. Alloimmune neonatal neutropenia due to an antibody to the neutrophil Fc-gamma receptor III with maternal deficiency of CD16 antigen. *Blood.* 1991; 77(7):1572-1580. (Clone-specific: Flow cytometry).
- Vosseveld PJ, Homburg CH, Roos D, Verhoeven AJ. The anti-Fc gamma RIII mAb 3G8 induces neutrophil activation via a cooperative actin of Fc gamma RIIIb and Fc gamma RIIa. *Int J Biochem Cell Biol.* 1997; 29(3):465-473. (Clone-specific: Flow cytometry).
- Wirthmueller U, Kurosaki T, Murakami MS, Ravetch JV. Signal transduction by Fc gamma RIII (CD16) is mediated through the gamma chain. *J Exp Med.* 1992; 175(5):1381-1390. (Clone-specific: Flow cytometry).
- Zola H. *Leukocyte and stromal cell molecules : the CD markers.* Hoboken, N.J.: Wiley-Liss; 2007; .

## BD Biosciences

[bdbiosciences.com](http://bdbiosciences.com)

United States  
877.232.8995

Canada  
888.268.5430

Europe  
32.53.720.550

Japan  
0120.8555.90

Asia Pacific  
65.6861.0633

Latin America/Caribbean  
0800.771.7157

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for a patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited. For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

©2020 BD. All rights reserved. Unless otherwise noted, BD, the BD Logo and all other trademarks are the property of Becton, Dickinson and Company or its affiliates.

