



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at +4C
#23290

CD16 (3G8) Mouse mAb (PE-Cy7[®] Conjugate)

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: FC-FP, FC-L	Reactivity: H	Sensitivity: Endogenous	Source/Isotype: Mouse IgG1 kappa	UniProt ID: #P08637	Entrez-Gene Id: 2214
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Product Usage Information

Application

Flow Cytometry (Fixed/Permeabilized)
Flow Cytometry (Live)

Dilution

1:20
1:20

Storage

Supplied in 10mM NaH₂PO₄, 150 mM NaCl, 0.09% NaN₃, <0.2% BSA, pH7.2. This product is stable for 6 months when stored at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

CD16 (3G8) Mouse mAb (PE-Cy7[®] Conjugate) recognizes endogenous levels of total CD16 protein. This antibody detects an epitope within the extracellular domain.

Source / Purification

This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.

Description

This Cell Signaling Technology antibody is conjugated to PE-Cy7[®] and tested in-house for direct flow cytometric analysis in human cells.

Background

CD64 (FcγRI), CD32 (FcγRII), and CD16 (FcγRIII) are three classes of the immunoglobulin superfamily. CD64 has a high affinity for IgG with three Ig-like domains while CD32 and CD16 have low affinities with two Ig-like domains. Two genes encode CD16-A and CD16-B resulting only in a 6 amino acid difference in their ectodomains. However, CD16-A has a transmembrane anchor versus CD16-B, which has a glycosylphosphatidylinositol (1). CD64, CD32, and CD16 are membrane glycoproteins that are expressed by all immunologically active cells and trigger various immune functions (activate B cells, phagocytosis, antibody-dependent cellular cytotoxicity, immune complex clearance, and enhancement of antigen presentation) (2). CD16 cross-linking induces tyrosine phosphorylation (Tyr394) of Lck in NK cells (3). CD32 has tyrosine-based activation motifs in the cytoplasmic domain in contrast to CD16, which associates with molecules possessing these motifs (1). CD16A is expressed by NK cells, macrophages, and a subset of monocytes, while CD16B is expressed by neutrophils (4). CD16 is commonly used in combination with CD56 to characterize NK cells, with CD16 identifying NK cells capable of cytotoxicity (5). The 3G8 antibody is widely used as a marker of CD16 expression on the cell types mentioned above (6).

Background References

1. Maenaka, K. et al. (2001) *J. Biol. Chem.* 276, 44898-44904.
2. Fridman, W. H. et al. (1992) *Immunol. Rev.* 125, 49-76.
3. Pignata, C. et al. (1993) *J. Immunol.* 151, 6794-6800.
4. Pincetic, A. et al. (2014) *Nat Immunol* 15, 707-16.
5. Nagler, A. et al. (1989) *J Immunol* 143, 3183-91.
6. Fleit, H.B. et al. (1982) *Proc Natl Acad Sci U S A* 79, 3275-9.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized) **FC-L:** Flow Cytometry (Live)

Cross-Reactivity Key

H: Human

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