

## PE anti-human CD40

**Catalog # / Size:** 2165030 / 100 tests  
2165025 / 25 tests

**Clone:** HB14

**Isotype:** Mouse IgG1,  $\kappa$

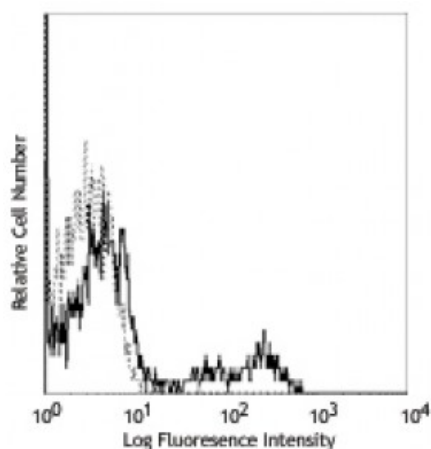
**Reactivity:** Human

**Preparation:** The antibody was purified by affinity chromatography, and conjugated with PE under optimal conditions. The solution is free of unconjugated PE and unconjugated antibody.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA).

**Workshop Number:** V CD40.5

**Concentration:** Lot-specific



Human peripheral blood lymphocytes stained with HB14 PE

## Applications:

**Applications:** Flow Cytometry

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. **Test size products are transitioning from 20 microL to 5 microL per test.** Please check your vial or your CoA to find the suggested use of this reagent per million cells in 100 microL staining volume or per 100 microL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

**Application Notes:** Additional reported applications (for the relevant formats) include: costimulation of B cell proliferation, partial inhibition of CD40 binding to CD40L, and prevention of B cell apoptosis.<sup>1</sup> Alone, or in combination with TLR ligands, clone HB14 stimulates B cells to produce IL-10 and differentiates it into regulatory B10 (IL-10 producing B cells).<sup>7</sup> The LEAF™ purified antibody (Endotoxin <0.1 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for functional assays (Cat. No. 313010).

- Application References:**
1. Pound JD, *et al.* 1999. *Int. Immunol.* 11:11. (Costim)
  2. Schlossman S, *et al.* Eds. 1995. *Leucocyte Typing V*. Oxford University Press. New York.
  3. Armengol MP, *et al.* 2001. *Am. J. Pathol.* 159:861.
  4. Cavanagh LL, *et al.* 2005. *Arthritis Res. Ther.* 7:R230.
  5. Jayakumar A, *et al.* 2008. *Infect Immun.* 76:2138. [PubMed](#)
  6. Sestak K, *et al.* 2007. *Vet. Immunol. Immunopathol.* 119:21.
  7. Iwata Y, *et al.* 2011. *Blood.* 117:530. [PubMed](#)

**Description:** CD40 is a 48 kD type I glycoprotein also known as BP50. It is a member of the TNFR superfamily primarily expressed on B cells, macrophages, follicular dendritic cells, endothelial cells, fibroblasts, and at low levels on plasma cells. CD40 has been reported to be involved in B cell differentiation, costimulation, isotype class-switching, and protection of B cells from apoptosis. Additionally, CD40 is important for T cell-B cell interactions. The ligand of CD40 is CD154 (CD40 ligand). The HB14 antibody has been reported to promote B cell proliferation in the presence of anti-IgM, IL-4 or PMA, partially block CD40 binding to CD40L and

rescue B cells from apoptosis.

- Antigen** 1. Banchereau J, *et al.* 1994. *Annu. Rev. Immunol.* 12:881.
- References:** 2. Foy T, *et al.* 1996. *Annu. Rev. Immunol.* 14:591.