

**APC/Cyanine7 anti-human CD40**

**Catalog # /** 2165090 / 100 tests  
**Size:** 2165085 / 25 tests

**Clone:** HB14

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

**Immunogen:** Human B7H2-mIg fusion protein

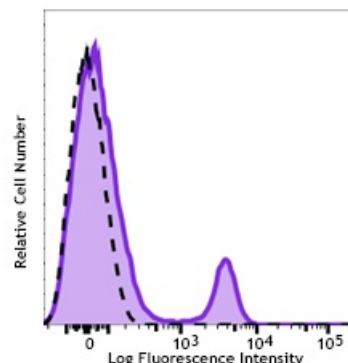
**Reactivity:** Human, Non-human primate, Other

**Preparation:** The antibody was purified by affinity chromatography and conjugated with APC/Cyanine7 under optimal conditions. The solution is free of unconjugated APC/Cyanine7 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 were stained with anti-human CD40 (clone HB14) APC/Cyanine7 (filled histogram) or mouse IgG1,  $\kappa$  APC/Cyanine7 isotype control (open histogram).

**Applications:**

**Applications:** Flow Cytometry

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is 5  $\mu$ l per million cells in 100  $\mu$ l staining volume or 5  $\mu$ l per 100  $\mu$ l of whole blood.

**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 HIB14 stimulates B cells to produce IL-10 and differentiates it into regulatory B10 (IL-10 producing B cells).<sup>7</sup>

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