

## PE anti-human CD40

**Catalog # / Size:** 313005 / 25 tests  
313006 / 100 tests

**Clone:** HB14

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

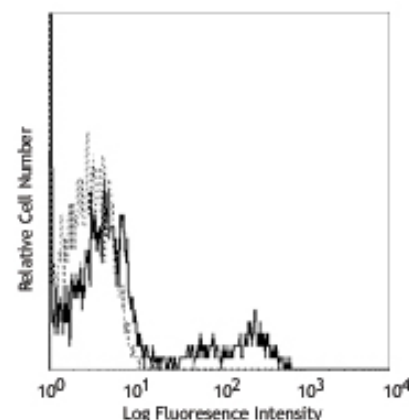
**Workshop Number:** V CD40.5

**Reactivity:** Human, **Cross-Reactivity\*:** Rhesus

**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).

**Storage:** The antibody solution should be stored undiluted at 4°C and protected from prolonged exposure to light. **Do not freeze.**



Human peripheral blood lymphocytes stained with HB14 PE

## Applications:

**Applications:** FC - Quality tested

**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  $\mu$ l to 5  $\mu$ l per test.** Please check your vial or your CoA to find the suggested use of this reagent per million cells in 100  $\mu$ l staining volume or per 100  $\mu$ l of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. Read more at [www.biolegend.com/testsize](http://www.biolegend.com/testsize) regarding the test size change.

**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/ $\mu$ g, Azide-Free, 0.2  $\mu$ m 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 References:**

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

Related Products:	Product	Clone	Application
	PE Mouse IgG1, $\kappa$ Isotype Ctrl	MOPC-21	FC, ICFC
	Cell Staining Buffer		FC, ICC, ICFC
	RBC Lysis Buffer (10X)		FC, ICFC
	PE anti-human CD154	24-31	FC
	Human TruStain FcX™ (Fc Receptor Blocking Solution)		FC, ICC, ICFC



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