

## LEAF™ Purified anti-human CD40

**Catalog # / Size:** 313009 / 50 µg  
313010 / 200 µg

**Clone:** HB14

**Isotype:** Mouse IgG1, κ

**Workshop Number:** V CD40.5

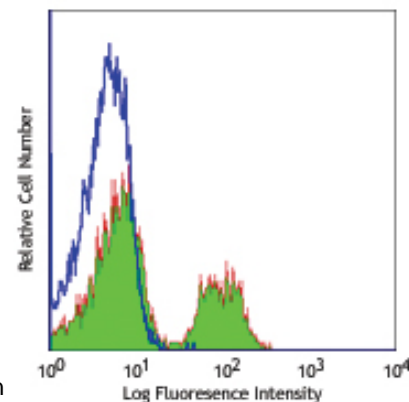
**Reactivity:** Human, **Cross-Reactivity\*:** Rhesus

**Preparation:** The LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.

**Formulation:** 0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is <0.1 EU/µg of the protein (<0.01 ng/µg of the protein) as determined by the LAL test.

**Concentration:** 1.0 mg/ml

**Storage:** The antibody solution should be stored undiluted at 4°C. This LEAF™ solution contains no preservative; handle under aseptic conditions.



Human peripheral blood lymphocytes stained with LEAF™ purified HB14, followed by anti-mouse IgGs FITC

## Applications:

**Applications:** FC - *Quality tested*  
Costim - *Reported in the literature*

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For immunofluorescent staining, the suggested use of this reagent is ≤0.5 µg per million cells in 100 µl volume. 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 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**  
LEAF™ Purified Mouse IgG1, κ Isotype Ctrl  
Cell Staining Buffer  
RBC Lysis Buffer (10X)  
LEAF™ Purified anti-human CD154

**Clone**  
MOPC-21

24-31

**Application**  
FC, ICFC, WB, IP, ICC, IF, FA  
FC, ICC, ICFC  
FC, ICFC  
FC, Block, IF



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