

**APC/Cyanine7 anti-human CD152 (CTLA-4)**

**Catalog # /** 2448165 / 25 tests  
**Size:** 2448170 / 100 tests

**Clone:** BNI3

**Isotype:** Mouse IgG2a, κ

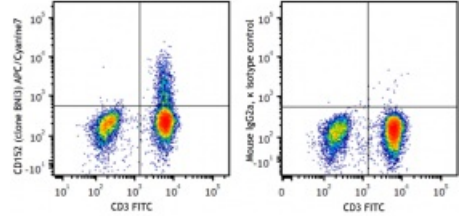
**Immunogen:** Extracellular domain of human CTLA-4 and constant regions of the human IgG heavy chain (CTLA-4/IgG)

**Reactivity:** Human

**Preparation:** The antibody was purified by affinity chromatography and conjugated with APC/Cyanine7 under optimal conditions.

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

**Concentration:** Lot-specific



Cell Activation Cocktail (without brefeldin)-stimulated human peripheral blood mononuclear cells (4 hours) were stained with anti-human CD3 FITC, fixed and permeabilized using Cyto-Fast™ Fix/Perm Buffer set, and intracellularly stained with anti-human CD152 (CTLA-4) (clone BNI3) APC/Cyanine7 (left), or mouse IgG2a, κ APC/Cyanine7 isotype control (right).

**Applications:**

**Applications:** Intracellular Staining for Flow Cytometry

**Recommended Usage:** Each lot of this antibody is quality control tested by intracellular immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is 5 µL per million cells in 100 µL staining volume or 5 µL per 100 µL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

**Application Notes:** *Based on in-house testing, we do not recommend using clone BNI3 for immunohistochemistry of paraffin-embedded tissue section.*

**Application References:**  
 1. Linsley PS, et al. 1992. *J. Exp. Med.* 176:1595.  
 2. Bonzheim I, et al. 2008. *Am. J. Clin. Pathol.* 130:613.

**Description:** CD152, also known as Cytotoxic T-Lymphocyte Antigen 4 (CTLA-4), is a 33 kD member of the immunoglobulin superfamily. It is transiently expressed on activated T cells. CTLA-4 is expressed on the surface of helper T cells and transmits an inhibitory signal to T cells. Regulatory T cells express high levels of CTLA-4. CTLA-4 (CD152) is similar to CD28 in amino acid sequence, structure, and genomic organization. Whereas CD28 delivers a costimulatory signal in T cell activation, CTLA-4 negatively regulates cell-mediated immune responses through interaction with CD80 (B7-1) and CD86 (B7-2) present on antigen presenting cells (APC). CTLA-4 is thought to play a role in the induction and maintenance of immunological tolerance as well as the development of protective immunity and thymocyte regulation.

Mutations in the CTLA-4 gene have been associated with various autoimmune diseases, such as systemic lupus erythematosus, insulin-dependent diabetes mellitus, and other autoimmune diseases. A transcript of the CTLA-4 gene that may represent a native soluble form of CTLA-4 (sCTLA-4) showed that eleven of twenty patients with autoimmune thyroid disease (ATD) had a high concentration of sCTLA-4, whereas only 1 of 30 apparently healthy volunteers contained measurable levels. sCTLA-4 immunoreactivity was inhibited by its binding to B7.1, suggesting that sCTLA-4 is a functional receptor. sCTLA-4 also plays a role in the initial immune response to infection of immune cells by HIV, along with the CD-1 pathway and others.

**Antigen  
References:**

1. Kuiper HM, *et al.* 1995. *J. Immunol.* 155:1776.
2. Castan J, *et al.* 1997. *Immunology* 90:265.
3. Lee CC, *et al.* 2009. *Pediatr. Allergy Immunol.* 20:624.
4. Pistillo MP, *et al.* 2003. *Blood* 101:202.
5. Tan PH, *et al.* 2005. *Blood.* 106:2936.
6. Steiner K, *et al.* 2001. *Clin. Exp. Immunol.* 126:143.