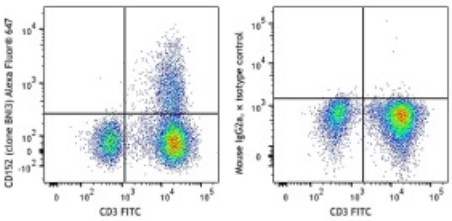
SONY

Product Data Sheet

Alexa Fluor® 647 anti-human CD152 (CTLA-4)

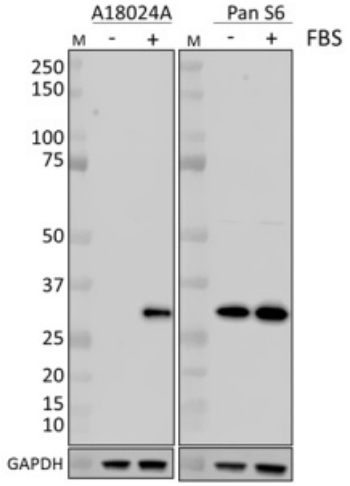
Catalog # / Size:	2448130 / 100 tests 2448125 / 25 tests
Clone:	BNI3
Isotype:	Mouse IgG2a, κ
Immunogen:	Extracellular domain of human CTLA-4 and constant regions of the human IgG heavy chain (CTLA-4/IgG)
Reactivity:	Human
Preparation:	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA)
Workshop Number:	HCDM listed
Concentration:	lot-specific



Cell Activation Cocktail (w/o brefeldin)-stimulated human peripheral blood mononuclear cells (4 hours) were stained with CD3 FITC, fixed and permeabilized using Cyto-Fast™ Fix/Perm Buffer set, and intracellularly stained with CD152 (CTLA-4) (clone BNI3) Alexa Fluor® 647 (left), or mouse IgG2a, κ Alexa Fluor® 647 isotype control (right).

Applications:

Applications:	Intracellular 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. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm.
Application Notes:	*Based on in-house testing, we do not recommend using clone BNI3 for immunohistochemistry of paraffin-embedded tissue section.*



Total cell lysates (15 µg protein) from serum-starved NIH/3T3 cells treated without (-) or with (+) 20% FBS for 30 minutes were resolved by 4-12% Bis-Tris gel electrophoresis, transferred to a PVDF membrane, and probed with 0.25 µg/mL (1:2000 dilution) of purified anti-RPS6 Phospho (Ser244) antibody (clone A18024A). Proteins were visualized by chemiluminescence detection using HRP goat anti-mouse IgG antibody at a 1:3000 dilution. Equal protein loading was confirmed using a purified anti-RPS6 antibody and Direct-Blot™

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HRP anti-GAPDH antibody used at a 1:25000 dilution (lower). Lane M: molecular weight ladder.

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.

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