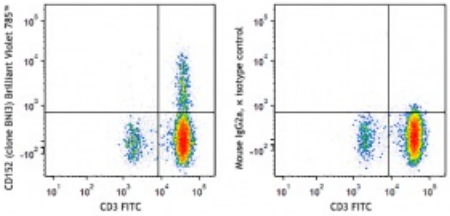
SONY

Product Data Sheet

Brilliant Violet 785™ anti-human CD152 (CTLA-4)

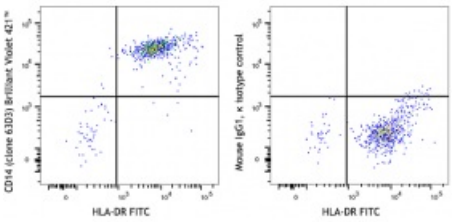
Catalog # / Size:	2448120 / 100 tests 2448115 / 25 tests
Clone:	BNI3
Isotype:	Mouse IgG2a, κ
Immunogen:	Extracellular domain of human CTLA-4 and constant regions of the human IgG heavy chain (CTLA-4/IgG)
Reactivity:	Human
Preparation:	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 785™ under optimal conditions. The solution is free of unconjugated Brilliant Violet 785™ and unconjugated antibody.
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
Workshop Number:	HCDM listed
Concentration:	Lot-specific



Cell Activation Cocktail-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) Brilliant Violet 785™ (left), or Mouse IgG2a, κ Brilliant Violet 785™ isotype control (right).

Applications:

Applications:	Flow Cytometry



Human peripheral blood monocytes were stained with HLA-DR FITC and Brilliant Violet 421™ anti-human CD14 (clone 63D3) (left) or Brilliant Violet 421™ mouse IgG1, κ isotype control (right).

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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 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.

Brilliant Violet 785™ excites at 405 nm and emits at 785 nm. The bandpass filter 780/60 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel. Refer to your instrument manual or manufacturer for support. Brilliant Violet 785™ is a trademark of Sirigen Group Ltd.

Application Notes:

This clone has been tested in-house and determined to not be suitable for applications in immunohistochemistry of frozen or paraffin-embedded tissue sections (IHC-F or IHC-P).

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.