Technical Data Sheet

Purified NA/LE Hamster Anti-Mouse CD152

Product Information

Material Number:	**553718**
Alternate Name:	CTLA-4
Size:	0.5 mg
Concentration:	1.0 mg/ml
Clone:	UC10-4F10-11
Immunogen:	Mouse CTLA-4 IgG2a Fusion
Isotype:	Armenian Hamster IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2μm sterile filtered. Endotoxin level is ≤0.01 EU/μg (≤0.001 ng/μg) of protein as determined by the LAL assay.

Description

The UC10-4F10-11 antibody reacts with CD152 (CTLA-4), which is expressed on activated T lymphocytes 2-3 days after stimulation through T cell receptor. CTLA-4 has significant similarity to CD28 in amino acid sequence, structure, and genomic organization. Furthermore, CD152 and CD28 share common B7 family counter-receptors. Unlike CD28, CD152 expression appears to be restricted to activated T cells and CD25+CD4+ regulatory T (Treg) cells. Whereas CD28 delivers a costimulatory signal required for T-cell activation, CTLA-4 is a negative regulator of cell-mediated immune responses. CD152 may play roles in induction and/or maintenance of immunological tolerance, regulation of protective immunity, and autoimmune responses, and regulation of some aspects of thymocyte maturation. This hamster mAb to a mouse leukocyte antigen does not cross-react with rat leukocytes.

Preparation and Storage

Store undiluted at 4°C.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

Flow cytometry	Routinely Tested
(Co)-stimulation	Reported
Blocking	Reported
Immunoprecipitation	Reported

Recommended Assay Procedure:

Since CD152 is expressed at low density on activated T cells, it may be necessary to amplify the signal by using a biotinylated second-step reagent, followed by a "bright" third-step reagent. We have found that biotin-conjugated mouse anti-hamster IgG (Cat. No. 554010) plus Streptavidin-PE (Cat. No. 554061) are effective. BD Mouse Fc Block™ (anti-mouse CD16/CD32 mAb 2.4G2, Cat. No. 553141/553142) may help to reduce non-specific binding of the antibody to cells bearing Fcγ receptors. Since a large proportion of the CTLA-4 molecule is intracellular, detection of the antigen is enhanced by staining cells permeabilized with the BD Cytofix/Cytoperm™ intracellular staining kit (Cat. No. 554714).

Suggested Companion Products

Catalog Number	Name	Size	Clone
553968	Purified NA/LE Hamster IgG1 κ Isotype Control	0.5 mg	A19-3

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/documents/hamster_chart_11x17.pdf.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	800.979.9408	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country contact information, visit **bdbiosciences.com/contact**

References

Alegre ML, Noel PJ, Eisfelder BJ, et al. Regulation of surface and intracellular expression of CTLA4 on mouse T cells. *J Immunol.* 1996; 157(11):4762-4770. (Biology)

Cilio CM, Daws MR, Malashicheva A, Sentman CL, Holmberg D. Cytotoxic T lymphocyte antigen 4 is induced in the thymus upon in vivo activation and its blockade prevents anti-CD3-mediated depletion of thymocytes. *J Exp Med.* 1998; 188(7):1239-1246. (Clone-specific: Blocking)

Harper K, Balzano C, Rouvier E, Mattei MG, Luciani MF, Golstein P. CTLA-4 and CD28 activated lymphocyte molecules are closely related in both mouse and human as to sequence, message expression, gene structure, and chromosomal location. *J Immunol.* 1991; 147(3):1037-1044. (Biology)

Issazadeh S, Zhang M, Sayegh MH, Khoury SJ.. Acquired thymic tolerance: role of CTLA4 in the initiation and maintenance of tolerance in a clinically relevant autoimmune disease model. *J Immunol.* 1999; 162(2):761-765. (Biology)

June CH, Bluestone JA, Nadler LM, Thompson CB. The B7 and CD28 receptor families. *Immunol Today.* 1994; 15(7):321-331. (Biology)

Kearney ER, Walunas TL, Karr RW, et al. Antigen-dependent clonal expansion of a trace population of antigen-specific CD4+ T cells in vivo is dependent on CD28 costimulation and inhibited by CTLA-4. *J Immunol.* 1995; 155(3):1032-1036. (Biology)

Lee KM, Chuang E, Griffin M, et al. Molecular basis of T cell inactivation by CTLA-4. *Science.* 1998; 282(5397):2263-2266. (Clone-specific: Immunoprecipitation)

Linsley PS, Bradshaw J, Greene J, Peach R, Bennett KL, Mittler RS. Intracellular trafficking of CTLA-4 and focal localization towards sites of TCR engagement. *Immunity.* 1996; 4(6):535-543. (Biology)

Marengere LE, Waterhouse P, Duncan GS, Mittrucker HW, Feng GS, Mak TW. Regulation of T cell receptor signaling by tyrosine phosphatase SYP association with CTLA-4. *Science.* 1996; 272(5265):1170-1173. (Biology)

McCoy K, Camberis M, Gros GL. Protective immunity to nematode infection is induced by CTLA-4 blockade. *J Exp Med.* 1997; 186(2):183-187. (Biology)

Perkins D, Wang Z, Donovan C, et al. Regulation of CTLA-4 expression during T cell activation. *J Immunol.* 1996; 156(11):4154-4159. (Biology)

Perrin PJ, Maldonado JH, Davis TA, June CH, Racke MK. CTLA-4 blockade enhances clinical disease and cytokine production during experimental allergic encephalomyelitis. *J Immunol.* 1996; 157(4):1333-1336. (Biology)

Read S, Malmstrom V, Powrie F. Cytotoxic T lymphocyte-associated antigen 4 plays an essential role in the function of CD25(+)CD4(+) regulatory cells that control intestinal inflammation. *J Exp Med.* 2000; 192(2):295-302. (Biology)

Takahashi T, Tagami T, Yamazaki S, et al. Immunologic self-tolerance maintained by CD25(+)CD4(+) regulatory T cells constitutively expressing cytotoxic T lymphocyte-associated antigen 4. *J Exp Med.* 2000; 192(2):303-309. (Biology)

Tivol EA, Borriello F, Schweitzer AN, Lynch WP, Bluestone JA, Sharpe AH. Loss of CTLA-4 leads to massive lymphoproliferation and fatal multiorgan tissue destruction, revealing a critical negative regulatory role of CTLA-4. *Immunity.* 1995; 3(5):541-547. (Biology)

Tivol EA, Boyd SD, McKeon S, et al. CTLA4Ig prevents lymphoproliferation and fatal multiorgan tissue destruction in CTLA-4-deficient mice. *J Immunol.* 1997; 158(11):5091-5094. (Biology)

Wagner DH Jr, Hagman J, Linsley PS, Hodsdon W, Freed JH, Newell MK. Rescue of thymocytes from glucocorticoid-induced cell death mediated by CD28/CTLA-4 costimulatory interactions with B7-1/B7-2. *J Exp Med.* 1996; 184(5):1631-1638. (Biology)

Walunas TL, Lenschow DJ, Bakker CY, et al. CTLA-4 can function as a negative regulator of T cell activation. *Immunity.* 1994; 1(5):405-413. (Immunogen: Flow cytometry, Immunoprecipitation, Stimulation)

Waterhouse P, Bachmann MF, Penninger JM, Ohashi PS, Mak TW. Normal thymic selection, normal viability and decreased lymphoproliferation in T cell receptor-transgenic CTLA-4-deficient mice. *Eur J Immunol.* 1997; 27(8):1887-1892. (Biology)

Waterhouse P, Penninger JM, Timms E, et al. Lymphoproliferative disorders with early lethality in mice deficient in Ctla-4. *Science.* 1995; 270(5238):985-988. (Biology)

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	800.979.9408	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country contact information, visit **bdbiosciences.com/contact**