

## Mouse Cytolytic CTLA4/Fc Fusion Protein

**CATALOG#:** MF110A4  
**QUANTITY:** 1 mg  
**MOLECULAR STRUCTURE:**

**LOT#:**  
**CONCENTRATION:** 1 mg/ml  
A soluble 97 kd dimeric fusion protein consisting of the extracellular (160aa) domain of mouse CD152 (CTLA4) fused to mouse IgG2a Fc.

**TRANSFECTANT CELL LINE:**  
**STORAGE CONDITIONS:**

NS1 cells  
Store stock solution at <-20<sup>0</sup>C. Store working solution at 4 <sup>0</sup>C. Freeze/Thawing is not recommended.

**PRODUCT STABILITY:**

Product should retain for at least one year after shipping date when stored at <-20<sup>0</sup>C and the working solution should retain for at least one week at 4 <sup>0</sup>C. The 50% inhibition of CTLA4/Fc on T cell proliferation triggered by Con A is at concentration of 0.25-0.5 µg/ml measuring in an in vitro T-cell proliferation assay.

**ACTIVITY RANGE:**

**FORMULATION:** CTLA4/Fc is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered PBS (PH 7.4, 50 mM Sodium Phosphate, 100 mM Potassium Chloride, 150 mM NaCl) and containing no preservatives.

**PRODUCTION:** Mouse CTLA4/Fc fusion protein was purified from serum free tissue culture supernatant of NS1 transfectants. Purity was >99% by SDS-PAGE. The endotoxin level is ≤0.06 EU per µg of CTLA4/Fc.

**INFORMATION:** Mouse CD152 is a cell surface glycoprotein expressed at low levels on activated T cells (1). CD152 is a high affinity receptor for the costimulatory molecules CD80 (B7-1) and CD86 (B7-2) while CD28 binds to CD80 and CD86 with lower Affinity (2, 3). CD28 and CD152 play important roles in regulating the magnitude and nature of T cell mediated immune response. CTLA4/Fc, a soluble chimeric fusion protein, blocks the B7/CD28 signaling pathway by binding to CD80 and CD86 (1). Using CTLA4/Fc, many investigators have shown that interruption of the B7/CD28 pathway can lead to suppression of allo- and xenimmune responses, and, in some cases, induction of Ag-specific tolerance (4, 5). However, by blocking B7 generated signals, CTLA4/Ig may prevent the negative regulatory CTLA4 signal (6). A cytolytic mouse CTLA4/Fc fusion protein is made by genetically fusing the extracellular domain of mouse CD152 (CTLA4) to mouse IgG2a Fc. Since the Fc $\gamma$ 2a murine isotype is able to bind effectively to cells expressing the high affinity Fc $\gamma$ R I receptor and possesses a complement (C1q) binding domain, thus is able to facilitate antibody-dependent cell-mediated cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC). The cytolytic CTLA4/Fc fusion protein is potentially able to target the cells bound by CTLA4 moieties

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2. Lenschow, D. J., T. L. Walunas, and J. A. Bluestone. 1996. CD28/B7 system of T cell costimulation. *Annu Rev Immunol* 14:233.
3. Linsley, P. S., J. L. Greene, W. Brady, J. Bajorath, J. A. Ledbetter, and R. Peach. 1994. Human B7-1 (CD80) and B7-2 (CD86) bind with similar avidities but distinct kinetics to CD28 and CTLA-4 receptors [published erratum appears in *Immunity* 1995 Feb;2(2):following 203]. *Immunity* 1:793.
4. Steurer, W., P. W. Nickerson, A. W. Steele, J. Steiger, X. X. Zheng, and T. B. Strom. 1995. Ex vivo coating of islet cell allografts with murine CTLA4/Fc promotes grafts tolerance. *J Immunol.* 155:1165.
5. Lenschow, D. J., Y. Zeng, J. R. Thistlethwaite, A. Montag, W. Brady, M. G. Gibson, P. S. Linsley, and J. A. Bluestone. 1992. Long-term survival of xenogeneic pancreatic islet grafts induced by CTLA4Ig. *Science* 257:789.
6. Perez, V. L., L. V. Parisi, A. Biuckans, X. X. Zheng, T. B. Strom, and A. K. Abbas. 1997. Induction of peripheral T cell tolerance in vitro requires CTLA-4 engagement. *Immunity* 6:411.

**\*This Product is intended for Laboratory Research use only.**