

## Human Cytolytic CTLA4/Fc Fusion Protein

**CATALOG#:** HF-211A4**QUANTITY:** 1 mg**MOLECULAR STRUCTURE:****TRANSFECTANT CELL LINE:****STORAGE CONDITIONS:****PRODUCT STABILITY:****ACTIVITY RANGE:****LOT#:****CONCENTRATION:** 1 mg/ml

A soluble 90 kd dimeric fusion protein consisting of the extracellular (124aa) domain of human CD152 (CTLA4) fused to human IgG1 Fc.

NS.1 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 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.

**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:** Human CTLA4/Fc fusion protein was purified from serum free tissue culture supernatant of NS1 transfectants. Purity was >98% by SDS-PAGE. The endotoxin level is ≤0.06 EU per µg of CTLA4/Fc.**INFORMATION:** 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 human CTLA4/Fc fusion protein is made by genetically fusing the extracellular domain of human CD152 (CTLA4) to human IgG1 Fc. Since the IgG1 human isotype is able to bind effectively to cells expressing the high affinity FcγR 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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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. Parijs, 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.****Chimerigen Laboratories**[www.chimerigen.com](http://www.chimerigen.com)

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