

Product Information

CD152/Fc Chimera, Non-cytolytic from mouse recombinant, expressed in NS.1 cells

Catalog Number **C4358**

Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: CTLA-4; CTLA4/Fc Chimera, non-cytolytic

Product Description

Recombinant, mouse non-cytolytic CD152/Fc chimera is a soluble 97 kDa dimeric fusion protein consisting of the extracellular domain (160 amino acids) of mouse CD152 fused to mouse mutant IgG2a Fc domain.

Mutations to the complement (C1q) and Fc γ R I binding sites of the Fc γ 2a domain render the Fc chimera incapable of antibody-directed cytotoxicity (ADCC) and complement directed cytotoxicity (CDC).¹ The mouse CD152/Fc fusion protein was expressed in NS.1 cells and purified from the serum-free tissue culture supernatant of the NS.1 transfectants.

CD152 and CD28 are structurally similar molecules that are members of the immunoglobulin (Ig) gene superfamily. They are composed of a single Ig V-like extracellular domain, a transmembrane domain, and an intracellular domain. CD152, a cell surface glycoprotein, was originally identified as a gene that was specifically expressed by cytotoxic T lymphocytes. However, CD152 transcripts have since been found in Th1, Th2, CD4+, and CD8+ T cell clones. The level of expression is activation-dependent.²

CD152 and CD28 are receptors for the ligands CD80 (B7-1) and CD86 (B7-2).^{3,4} CD152 and CD28 together with their ligands constitute one of the dominant co-stimulatory pathways that regulate T and B cell responses. CD152 acts as a co-stimulatory molecule in eliciting T cell help during antigen presentation and functions as a negative regulator of T cell activation.^{1,5}

CD152/Fc chimera blocks the B7/CD28 signaling pathway by binding to CD80 and CD86.⁶ Using CD152/Fc chimera, many investigators have demonstrated that interrupting the B7/CD28 pathway suppresses both allo- and xenimmune responses and, in some cases, induces antigen-specific T cell tolerance.⁶⁻⁸ However, by blocking B7 generated signals, CD152/Fc chimera may also block the negative regulatory role of CD152 on T cell activation.⁹

This recombinant, mouse CD152/Fc chimera product is lyophilized from a solution of 0.2 μm sterile-filtered phosphate-buffered saline (PBS; 50 mM sodium phosphate, pH 7.4, 100 mM KCl, and 150 mM NaCl) containing no preservatives.

Purity: $\geq 98\%$ (SDS-PAGE)

The CD152/Fc Blocks the binding of mouse CD80 (B7-1) and CD86 (B7-2) to their receptors and thereby, prevents their T cell regulatory actions by inhibiting the CD28 signaling competitively.

Endotoxin: ≤ 0.1 EU per μg of protein
(limulus amoebocyte lysate [LAL] method)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute with sterile water to a final concentration of 1 mg/ml. This aqueous solution can be diluted further with 1 \times PBS to the desired protein concentration.

Storage/Stability

The product ships on wet ice and storage at $-20\text{ }^{\circ}\text{C}$ is recommended. Avoid repeated freeze-thaw cycles. The product remains active for at least one year when stored at $-20\text{ }^{\circ}\text{C}$. Aliquots are stable for up to 3 months when stored at $-20\text{ }^{\circ}\text{C}$.

References

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3. Murakami, M. et al., Identification and characterization of an alternative cytotoxic T lymphocyte-associated protein 4 binding molecule on B cells. *Proc. Natl. Acad. Sci. USA*, **93**, 7838-7842 (1996).
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RC,KEK,LMY,MAM 03/15-1