

Cytolytic Mutant Human IL-15/mouse Fc Fusion Protein**(MhIL-15/mFc)****CATALOG#: HF-21015****LOT#:****QUANTITY: 10 µg****CONCENTRATION: 100 µg/ml****MOLECULAR STRUCTURE:**A soluble 100 kd dimeric fusion protein consisting of mutant human IL-15 fused to mouse Fc γ 2a Fc.**TRANSFECTANT CELL LINE:**

CHO cells

STORAGE CONDITIONS:Store stock solution at <-20⁰C. Store working solution at 4⁰C. Freeze/Thawing is not recommended.**PRODUCT STABILITY:**Product should retain for at least one year after shipping date when stored at <-20⁰C and the working solution should retain for at least one week at 4⁰C.**Ship Date:**

8/1/2000

ACTIVITY RANGE:

Measured using CTLL-s indicator cells.

Specific Activity: 50% inhibition of rIL-15 triggered proliferation at 1-3 µg/ml.

FORMULATION: Mutant human IL-15/mouse 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:** Mutant human IL-15/mouse Fc fusion protein was purified from tissue culture supernatant of CHO transfectants. Purity was >98% by SDS-PAGE. The endotoxin level is ≤0.6 EU per µg of IL-15/Fc.**INFORMATION:** IL-15 is a 14- to 15-kDa member of the 4 α -helix bundle family of cytokines that possess T cell growth-factor activity (1, 2). In contrast to IL-2, a T cell product, IL-15 mRNA is expressed by a wide variety of cells, including macrophages, B cells, thymic, activated vascular endothelial cells, and bone marrow stromal cells, as well as tissues such as liver, heart, spleen, lung, and skeletal muscle (2, 3). IL-15 exerts overlapping activities with IL-2 due to their shared β and γ -chain receptor components (4). A receptor site-specific IL-15 antagonist, mutant human IL-15/ mouse Fc, is made by mutating glutamine residues within the C terminus of IL-15 to aspartic acid and genetically fusing to mouse Fc γ 2a (5). This mutant IL-15 fusion protein specifically binds to the IL-15R, competitively inhibits IL-15-triggered cell proliferation, does not activates the STAT-signaling pathway, and possesses a prolonged circulating half-life determined by the Fc domain (5). Since the Fc γ 2a murine isotype is able to bind effectively to cells expressing the high affinity Fc γ 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 mutant IL-15/Fc fusion protein is potentially able to target the cells bound by IL-15 moieties (6).

1. Bamford, R. N., A. J. Grant, J. D. Burton, C. Peters, G. Kurys, C. K. Goldman, J. Brennan, E. Roessler, and T. A. Waldmann. 1994. The interleukin 2 receptor beta chain is shared by IL-2 and a cytokine, provisionally designated IL-T, that stimulates T-cell proliferation and the induction of lymphokine-activated killer cells. *Proc. Natl. Acad. Sci. USA* 91:4940.
2. Grabstein, K. H., J. Eisenman, K. Shanebeck, C. Rauch, S. Srinivasan, V. Fung, and C. Beers. 1994. Cloning of a T cell growth factor that interacts with the β chain of the interleukin-2 receptor. *Nature* 264:965.
3. Bamford, R. N., Y. Tagaya, and T. A. Waldman. 1997. Interleukin 15: what it does and how it is controlled. *Immunologist* 5:52.
4. Carson, W. E. 1994. Interleukin (IL) 15 is a novel cytokine that activates human natural killer cells via components of IL-2 receptor. *J. Exp. Med.* 180:1395.
5. Kim, Y. S., W. Maslinski, X. X. Zheng, A. C. Stevens, X. C. Li, G. H. Tesch, V. R. Kelley, and T. B. Strom. 1998. Targeting the IL-15 receptor with an antagonist IL-15 mutant/Fc gamma2a protein blocks delayed-type hypersensitivity. *J Immunol* 160:5742.
6. Zheng, X. X., A. W. Steele, W. W. Hancock, K. Kawamoto, X. C. Li, P. W. Nickerson, Y. Li, Y. Tian, and T. B. Strom. 1999. IL-2 receptor-targeted cytolytic IL-2/Fc fusion protein treatment blocks diabetogenic autoimmunity in nonobese diabetic mice. *J Immunol* 163:4041.

This Product is intended for Laboratory Research use only.**Chimerigen Laboratories**www.chimerigen.com

214 Lincoln Street, Suite 315

Allston, MA 02135

Tel: 617-779-8868

Fax: 617-779-0880