

Product Information

TARC

Mouse, Recombinant
Expressed in *E. coli*

Product Number **T9694**

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

Synonym: CCL-17

Product Description

Mouse recombinant TARC (thymus and activation-regulated chemokine) is expressed in *E. coli*. It is a 70 amino acid protein with a predicted molecular weight of 7.9 kDa.

TARC belongs to the β or CC chemokine subfamily characterized by having two adjacent cysteines in the conserved motif and by the chromosomal location of their genes.¹ Murine TARC is expressed constitutively in dendritic cells of thymus and lymph nodes and by CD11c⁺ cells in the lung.² It is transiently expressed in peripheral blood mononuclear cells. Chemokines are involved in modulating the trafficking (chemotaxis) of leukocytes, especially systemic T cells. The Th2 subset of helper T cells, especially CD4⁺ T cells and antigen-primed helper T cells, expresses high levels of CCR4 receptors. TARC is a functional ligand that binds with high affinity and specificity to CCR4 receptors. Therefore TARC functions as a potent and selective chemoattractant to helper T cells and directs their migration during the early phase of the immune response.^{3,4} Real-time quantitative PCR has been used to monitor the up-regulation of TARC expression by maturing dendritic cells.⁵

Reagents

Recombinant mouse TARC is supplied as a lyophilized powder from a 0.2 μm filtered solution containing 30% acetonitrile, 0.1% TFA and 50 μg bovine serum albumin per 1 μg TARC.

Precautions and Disclaimer

For laboratory research use only. Not for drug, household or other uses.

Preparation Instructions

Stock solutions should contain at least 25 μg mouse recombinant TARC per mL sterile phosphate buffered saline and at least 0.1% human or bovine serum albumin.

Storage/Stability

The lyophilized protein is stable for at least one year when stored at $-20\text{ }^{\circ}\text{C}$. After reconstitution, single-use aliquots may be stored at $-20\text{ }^{\circ}\text{C}$ for at least three months.

Product Profile

Mouse recombinant TARC is assayed for its ability to induce chemotaxis of human CEM NK^R cells ($\text{ED}_{50} = 2\text{-}10\text{ ng/mL}$)⁶ and for its ability to chemoattract mouse BaF/3 cells transfected with human CCR4 ($\text{ED}_{50} = 2\text{-}8\text{ ng/mL}$).

Purity is >97% by SDS-PAGE visualized by silver staining.

Endotoxin level is < 0.1 ng/ μg TARC determined by the Limulus amoebocyte lysate (LAL) method.

References

1. Imai, T, et al., Molecular cloning of a novel T cell-directed CC chemokine expressed in thymus by signal sequence trap using Epstein-Barr virus vector. *J. Biol. Chem.*, **271**, 21514-21521 (1996).
2. Lieberam, I, et al., The murine β -chemokine TARC is expressed by subsets of dendritic cells and attracts primed CD4⁺ T cells. *Eur. J Immunol.*, **29**, 2684-2694 (1999)
3. Imai, T., et al., The T cell-directed CC chemokine TARC is a highly specific biological ligand for CC chemokine receptor 4. *J. Biol. Chem.*, **272**, 15036-15042 (1997).

4. Imai ,T., et al., Selective recruitment of CCR4-bearing Th2 cells toward antigen-presenting cells by the CC chemokines thymus and activation-regulated chemokine and macrophage-derived chemokine. *Int. Immunol.*, **11**, 81-88 (1999).
5. Vissers, J. L., et al., Quantitative analysis of chemokine expression by dendritic cell subsets *in vitro* and *in vivo*. *J. Leukoc. Biol.*, **69**, 785-793 (2001).
6. Howell, D. N., et al., Natural killing target antigens as inducers of interferon: studies with an immunoselected, natural killing-resistant human T lymphoblastoid cell line. *J. Immunol.*, **134**, 971-976 (1985).

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