

Product Information

RANTES

Mouse, Recombinant

Expressed in *Escherichia coli*

Product Number **R 2274**

Product Description

RANTES is a member of the β (C-C) chemokine subfamily, which also includes the human proteins MCP-1, MCP-2, MIP-1 α , MIP1 β , I-309, and their murine counterparts. Mouse RANTES cDNA encodes a 91 amino acid residue precursor polypeptide with a 23 amino acid residue hydrophobic signal peptide that is cleaved to produce the 68 amino acid residue mature protein (approximately 7.9 kDa).¹ Human and mouse RANTES share approximately 85% amino acid identity.¹

RANTES (Regulated upon Activation, Normal T cell Expressed and presumably Secreted) was first discovered by subtractive hybridization as a transcript expressed in T cells but not B cells. Eosinophilic chemotactic substances released by thrombin-stimulated human platelets are identical to RANTES. In addition to T cells and platelets, RANTES is expressed by renal tubular epithelium,² synovial fibroblasts, and selected tumor cells (rhabdomyosarcoma cells and MG63 osteosarcoma cells). The mouse RANTES gene maps to chromosome 11.³

The chemokine RANTES is a chemoattractant for monocytes,⁴ T lymphocytes,⁵ and NK (natural killer) cells.⁶ RANTES selectively attracts T cells of the CD4⁺/CD45RO⁺ phenotype *in vitro*.⁴ RANTES can also chemoattract and degranulate eosinophils,⁷ as well as chemoattract and induce histamine release from basophils.⁸ RANTES has been shown to inhibit HIV-1 entry via human CCR-5.⁹ RANTES and MIP-1 α bind to chemokine receptors (CCR1, CCR4, and CCR5) and induce activation of STAT signaling pathways.¹⁰ Because of its *in vitro* biological activities, RANTES may play an important role in mediating immune and inflammatory responses.

Reagent

Recombinant Mouse Rantes is supplied as approximately 25 μ g of protein lyophilized from a 0.2 μ m filtered solution in 30% acetonitrile and 0.1% trifluoroacetic acid (TFA) containing 1.25 mg bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 25 μ g/ml.

Storage/Stability

Prior to reconstitution, store at -20°C . Reconstituted product may be stored at 2°C to 8°C for at least one month. For prolonged storage, freeze in working aliquots at -20°C . Avoid repeated freezing and thawing.

Product Profile

Recombinant Mouse Rantes is measured by its ability to chemoattract two day cultured human monocytes.¹ The ED₅₀ for this effect is generally 0.03 to 0.1 μ g/ml. The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50 % increase in cell growth in a cell based bioassay.

Purity: >95 % as determined by SDS-PAGE, visualized by silver stain.

Endotoxin: < 0.1 ng/ μ g determined by the LAL (Limulus amoebocyte lysate) method.

References

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KAA 01/01

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