

Active Recombinant Mouse Ret/FC Chimera

Cat. No. Ret-18M **Lot. No.** (See product label)

SPECIFICATION

Product Overview

A DNA sequence encoding the human CD33 signal peptide and the ectodomain of the recombinant human A Disintegrin and Metalloprotease domain 10 (rhADAM10, amino residues 18 - 672) (Rosendahl, et al., 1997, J. Biol. Chem. 272:24588 - 24593) was expressed with a C-terminal 10X His tag in an insect cell line, Sf 21.

Species Mouse

Source Sf21 Cells

ProteinLength 18-672 a.a.

Description

The GDNF family of neurotrophic factors forms a subfamily within the TGF- β superfamily. These proteins are potent survival factors for various central and peripheral neurons during development and the adult animal. The GDNF family members (GDNF, neurturin, artemin and persephin) signal through multicomponent receptors that consist of the Ret receptor tyrosine kinase and one of four glycosyl-phosphatidylinositol (GPI)-linked ligand-binding subunits (GFR α -1 -4). GFR α -1 -2, -3 and -4 are the preferred ligand-binding subunits for GDNF, neurturin, artemin and persephin, respectively. The Ret tyrosine-kinase receptor is encoded by the c-ret proto-oncogene. Mutations of the ret gene have been associated with various human diseases affecting tissues derived from the neural crest, including Hirschsprung's disease, multiple endocrine neoplasia MEN2A and MEN2B, and familial medullary thyroid carcinoma. Human and mouse Ret share 83% amino acid sequence homology (77% homology in the extracellular domain and 93%

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	homology in the cytoplasmic domain). Although Ret does not bind GDNF ligands directly, the extracellular domain of Ret binds the GDNF-GFR- α complex with high affinity and is a potent GDNF antagonist in the presence of soluble GFR- α .
Predicted N Terminal	The purified secreted rmADAM10 exists as the mature and active form with the N-terminal sequence of T214TSAEKNTCQ
Form	Frozen in a 0.2 μ m filtered solution of 25 mM MES, 10 mM CaCl ₂ , 2.5 μ M ZnCl ₂ , 0.15 M NaCl, 5 mM CaCl ₂ , pH 5.2 at a concentration of 0.635 mg/mL.
Bio-activity	Measured by its ability to cleave a fluorescent peptide substrate, (7-methoxycoumarin-4-yl) acetyl-Pro-Leu-Ala-Gln-Ala-Val-(3-[2, 4-dinitrophenyl]-L-2, 3-diaminopropionyl)-Arg-Ser-Ser-Ser-Arg-NH ₂ . Cleavage of ES003 can be measured using excitation and emission wavelengths of 320 nm and 405 nm, respectively.
Molecular Mass	The purified secreted rmADAM10 exists as the mature and active form with the N-terminal sequence of T214TSAEKNTCQ. The 469 amino acid residue rhADAM10 has a predicted molecular mass of approximately 52 kDa. By SDS-PAGE, the apparent molecular mass is approximately 60 kDa.
Endotoxin	< 2.0 eu per 1 μ g of the enzyme as determined by the lal
Purity	>90%, as determined by SDS-PAGE and visualized by silver stain.
Usage	FOR RESEARCH USE ONLY
Quality Control Test	Lyophilized samples are stable for up to six months at -20 centigrade to -70 centigrade. Upon reconstitution, this cytokine, in the presence of a carrier protein, can be stored under sterile conditions at 2 - 8 centigrade for one month or at -20 centigrade to -70 centigrade in a manual defrost freezer for three months without

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detectable loss of activity.

Reconstitution

It is recommended that water be used to reconstitute the enzyme at .5 mg/mL.

Warning

Avoid repeated freeze-thaw cycles. Centrifuge the vial before opening to recover entire contents of the vial. Due to possible sublimation during storage, the buffer volume may decrease over time, however, the product is sold by mass and the amount of protein will remain constant. To ensure quantitative recovery, we suggest the stock solution be made in the original vial.

GENE INFORMATION

Gene Name

[Ret](#) [ret proto-oncogene](#) [[Mus musculus](#)]

Official Symbol

[Ret](#)

Synonyms

[RET](#); [ret proto-oncogene](#); [proto-oncogene tyrosine-protein kinase receptor Ret](#); [proto-oncogene c-Ret](#); [PTC](#); [RET9](#); [RET51](#); [c-Ret](#);

Gene ID

[19713](#)

mRNA Refseq

[NM_001080780](#)

Protein Refseq

[NP_001074249](#)

UniProt ID

[P35546](#)

Chromosome Location


[6 E3-F1](#); [6 55.86 cM](#)

Pathway

[Dopaminergic Neurogenesis, organism-specific biosystem](#); [Endocytosis, organism-](#)

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specific biosystem; Endocytosis, conserved biosystem; Pathways in cancer, organism-specific biosystem; SIDS Susceptibility Pathways, organism-specific biosystem; Thyroid cancer, organism-specific biosystem; Thyroid cancer, conserved biosystem;

Function

ATP binding; calcium ion binding; kinase activity; nucleotide binding; protein binding; protein kinase activity; protein tyrosine kinase activity; transferase activity; transferase activity, transferring phosphorus-containing groups; transmembrane receptor protein tyrosine kinase activity;

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