

Human MERTK / Mer Protein



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Biological Solution Specialist

Catalog Number: 10298-HCCH

General Information

Gene Name Synonym:

c-Eyk; c-mer; MER; RP38; Tyro12

Protein Construction:

The mature form of human Mer (NP_006334.2) extracellular domain (Met 1-Ala 499) with five amino acids (DDDDK) at the C-terminus was expressed and purified.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 85 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Ala 21

Molecular Mass:

The recombinant human Mer consists of 485 amino acids and predicts a molecular mass of 54 kDa. As a result of glycosylation, the rhMer migrates as approximately 110-120 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 100mM NaCl, 50mM Tris, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

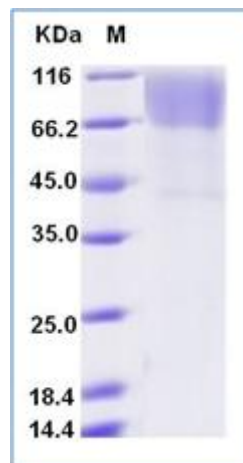
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

&Proto-oncogene tyrosine-protein kinase MER (MERTK) is a member of the MER/AXL/TYRO3 receptor kinase family and encodes a transmembrane protein with two fibronectin type-III domains, two Ig-like C2-type (immunoglobulin-like) domains, and one tyrosine kinase domain. MERTK is localized in membrane and is no expressed in normal B- and T-lymphocytes but is expressed in numerous neoplastic B- and T-cell lines. This protein is highly expressed in testis, ovary, prostate, lung, and kidney, with lower expression in spleen, small intestine, colon, and liver. MERTK regulates many physiological processes including cell survival, migration, differentiation, and phagocytosis of apoptotic cells (efferocytosis). Ligand binding at the cell surface induces autophosphorylation of MERTK on its intracellular domain that provides docking sites for downstream signaling molecules. MERTK signaling plays a role in various processes such as macrophage clearance of apoptotic cells, platelet aggregation, cytoskeleton reorganization and engulfment. MERTK plays also an important role in inhibition of Toll-like receptors (TLRs)-mediated innate immune response by activating STAT1, which selectively induces production of suppressors of cytokine signaling SOCS1 and SOCS3. Defects in MERTK are the cause of retinitis pigmentosa type 38.

References

- 1.Thompson DA, *et al.* (2002) Retinal dystrophy due to paternal isodisomy for chromosome 1 or chromosome 2, with homoallelism for mutations in RPE65 or MERTK, respectively. *Am J Hum Genet.* 70 (1): 224-9.
- 2.Tada A, *et al.* (2006) Screening of the MERTK gene for mutations in Japanese patients with autosomal recessive retinitis pigmentosa. *Mol Vis.* 12: 441-4.
- 3.McHenry CL, *et al.* (2004) MERTK arginine-844-cysteine in a patient with severe rod-cone dystrophy: loss of mutant protein function in transfected cells. *Invest Ophthalmol. Vis Sci.* 45 (5): 1456-63.

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