

# Mouse MERTK / Mer Protein (His & GST Tag)

Catalog Number: 50514-M20B1



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

Eyk; Mer; nmf12; Nyk

### Protein Construction:

A DNA sequence encoding the mouse MERTK (Q60805) (Glu573-Tyr867) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

**Source:** Mouse

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 96 % as determined by SDS-PAGE

### Bio Activity:

The specific activity was determined to be 15 nmol/min/mg using Poly(Glu,Tyr) 4:1 as substrate

### 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:** Met

### Molecular Mass:

The recombinant mouse MERTK/GST chimera consists of 532 amino acids and has a calculated molecular mass of 61.7 kDa. The recombinant protein migrates as an approximately 58 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% gly

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:

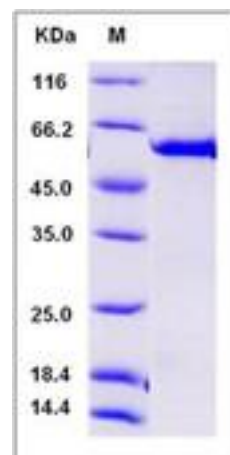
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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 not 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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