

## Mer Protein, Human (sf9, His-GST)

Cat. No.:	HY-P73821
Synonyms:	Tyrosine-protein kinase Mer; MERTK; MER
Species:	Human
Source:	Sf9 insect cells
Accession:	Q12866 (E578-Y872)
Gene ID:	10461
Molecular Weight:	Approximately 50 kDa

### PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 50 mM Tris, 100 mM NaCl, pH 7.4, 20% gly, 0.3 mM DTT.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

### DESCRIPTION

#### Background

The Mer protein, a receptor tyrosine kinase, transduces signals from the extracellular matrix by binding to various ligands, including LGALS3, TUB, TULP1, or GAS6. It is involved in regulating diverse physiological processes, including cell survival, migration, differentiation, and the phagocytosis of apoptotic cells (efferocytosis). Ligand binding at the cell surface induces autophosphorylation of MERTK on its intracellular domain, creating docking sites for downstream signaling molecules. Upon activation by ligand, Mer interacts with GRB2 or PLCG2 and induces the phosphorylation of MAPK1, MAPK2, FAK/PTK2, or RAC1. MERTK signaling is implicated in macrophage clearance of apoptotic cells, platelet aggregation, cytoskeleton reorganization, and engulfment. In the retinal pigment epithelium (RPE), it serves as a regulator of rod outer segment fragments' phagocytosis. Moreover, Mer plays a crucial role in inhibiting Toll-like receptors (TLRs)-mediated innate immune responses by activating STAT1, which selectively induces the production of suppressors of cytokine signaling SOCS1 and SOCS3.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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