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Produktinformation

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PRODUCT INFORMATION

MERTK Extracellular Domain (human, recombinant)

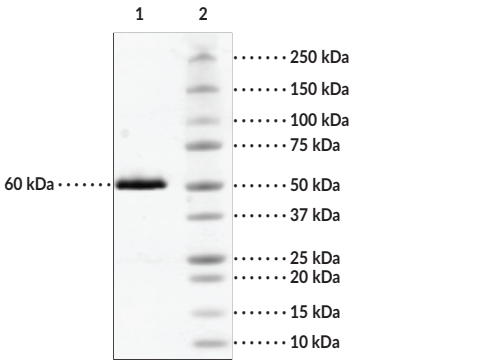
Item No. 33743

Overview and Properties

Synonyms:	MER, c-Mer, Proto-oncogene c-Mer, Receptor Tyrosine Kinase MerTK, RP38, Tyrosine-protein Kinase Mer
Source:	Active recombinant human N-terminal GST-tagged MERTK expressed in insect cells
Amino Acids:	578-872
Uniprot No.:	Q12866
Molecular Weight:	60 kDa
Storage:	-80°C (as supplied)
Stability:	≥6 months
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	40 mM Tris-HCl, pH 8.0, with 110 mM sodium chloride, 2.2 mM potassium chloride, 0.04% Tween 20, 20% glycerol, and 1.6 mM glutathione
Protein Concentration:	***batch specific*** mg/ml
Activity:	***batch specific*** U/ml
Specific Activity:	***batch specific*** U/mg

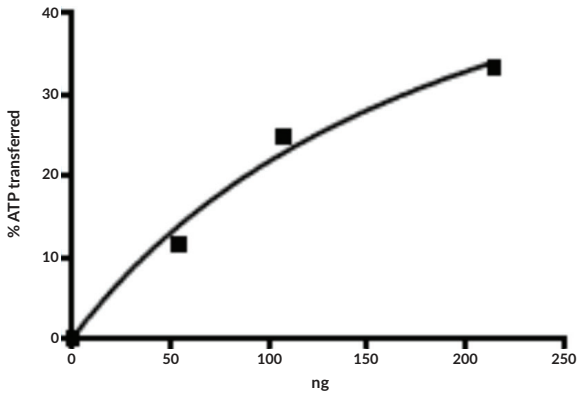
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MERTK Extracellular Domain (2µg)
Lane 2: MW Markers

SDS-PAGE Analysis of MERTK Extracellular Domain.



Assay was done in kinase buffer containing 1mM DTT using Poly-(Glu4:Tyr) substrate (0.2 mg/ml) and 20 µM ATP. Reaction was done at 30°C for 45 min. Amount of ATP transferred was calculated using ADP detection assay.

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PRODUCT INFORMATION

Description

MERTK is a TAM family receptor tyrosine kinase with roles in macrophage activation, apoptotic cell engulfment, and platelet aggregation.[1,2] It is composed of an extracellular domain, which contains two immunoglobulin-like (Ig-like) domains and two FNIII domains, and an intracellular tyrosine kinase domain.[1] MERTK is expressed at low levels in the brain in oligodendrocytes, astrocytes, and microglia, as well as in the heart and skeletal muscle, and at high levels in the ovary, prostate, testis, lung, retina, and kidney. It is also expressed in platelets, megakaryocytes, dendritic cells, natural killer (NK) cells, monocytes, and macrophages.[3] Membrane-bound MERTK can be cleaved by a metalloproteinase to release the extracellular domain as a soluble form of MERTK (sMer), which binds the MERTK activating ligand Gas6 to block Gas6-mediated MERTK activation, leading to defective macrophage-mediated engulfment of apoptotic cells and decreased platelet aggregation.[2] Mutations in *MERTK* are associated with severe disease in patients with inherited retinal disease.[4] Cayman's MERTK Extracellular Domain (human, recombinant) can be used for enzyme activity assay applications.

References

1. Myers, K.V., Amend, S.R., and Pienta, K.J. Targeting Tyro3, Axl and MerTK (TAM receptors): Implications for macrophages in the tumor microenvironment. *Mol. Cancer* **18(1)**, 94 (2019).
2. Sather, S., Kenyon, K.D., Lefkowitz, J.B., *et al.* A soluble form of the Mer receptor tyrosine kinase inhibits macrophage clearance of apoptotic cells and platelet aggregation. *Blood* **109(3)**, 1026-1033 (2007).
3. Tondo, G., Perani, D., and Comi, C. TAM receptor pathways at the crossroads of neuroinflammation and neurodegeneration. *Dis. Markers* 2387614 (2019).
4. Audo, I., Mohand-Said, S., Boulanger-Scemama, E., *et al.* MERTK mutation update in inherited retinal diseases. *Hum. Mutat.* **39(7)**, 887-913 (2018).

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