

MerTK (B-1): sc-365499



The Power to Question

BACKGROUND

MerTK, also called c-Mer, is a member of the Mer/Axl/Tyro3 receptor kinase family. It is a 984 residue transmembrane protein made up of one tyrosine kinase domain, two Fibronectin type-III domains and two immunoglobulin-like C2-type domains. MerTK is the mammalian ortholog of the chicken retroviral oncogene product v-Eyk. This protein plays a critical role in macrophage activation, platelet aggregation, clot stability and the efficient removal of apoptotic cells. Specifically, MerTK acts as a signaling molecule, triggering outer segment ingestion in the retinal pigment epithelium (RPE) phagocytic process. Evidence suggests that MerTK signals via interaction with phosphatidylinositol-specific phospholipase C γ 2 (PI-PLC γ 2). When the gene encoding for MerTK is mutated, the RPE phagocytosis pathway is disrupted and autosomal recessive retinitis pigmentosa (RP) may result, leading to degeneration of retinal photoreceptor cells.

CHROMOSOMAL LOCATION

Genetic locus: MERTK (human) mapping to 2q13; Mertk (mouse) mapping to 2 F1.

SOURCE

MerTK (B-1) is a mouse monoclonal antibody raised against amino acids 1-222 mapping within an N-terminal extracellular domain of MerTK of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MerTK (B-1) is available conjugated to agarose (sc-365499 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365499 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365499 PE), fluorescein (sc-365499 FITC), Alexa Fluor[®] 488 (sc-365499 AF488), Alexa Fluor[®] 546 (sc-365499 AF546), Alexa Fluor[®] 594 (sc-365499 AF594) or Alexa Fluor[®] 647 (sc-365499 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365499 AF680) or Alexa Fluor[®] 790 (sc-365499 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MerTK (B-1) is recommended for detection of MerTK of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MerTK siRNA (h): sc-37127, MerTK siRNA (m): sc-37128, MerTK shRNA Plasmid (h): sc-37127-SH, MerTK shRNA Plasmid (m): sc-37128-SH, MerTK shRNA (h) Lentiviral Particles: sc-37127-V and MerTK shRNA (m) Lentiviral Particles: sc-37128-V.

Molecular Weight of MerTK: 110 kDa.

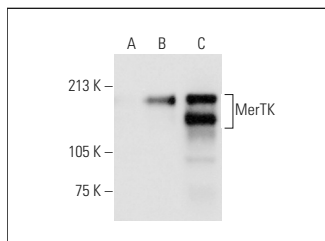
Molecular Weight of glycosylated MerTK: 140-205 kDa.

Positive Controls: MerTK (m): 293 Lysate: sc-178930, U-937 cell lysate: sc-2239 or Hep G2 cell lysate: sc-2227.

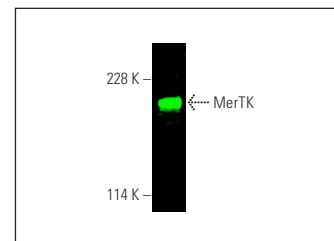
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



MerTK (B-1): sc-365499. Western blot analysis of MerTK expression in non-transfected 293: sc-110760 (A), mouse MerTK transfected 293: sc-178930 (B) and Hep G2 (C) whole cell lysates.



MerTK (B-1): sc-365499. Near-infrared western blot analysis of MerTK expression in U-937 whole cell lysate. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

- Vouri, M., et al. 2015. Small molecule inhibition of Axl receptor tyrosine kinase potently suppresses multiple malignant properties of glioma cells. *Oncotarget* 6: 16183-16197.
- Richter, E., et al. 2016. Induction of macrophage function in human THP-1 cells is associated with rewiring of MAPK signaling and activation of MAP3K7 (TAK1) protein kinase. *Front. Cell Dev. Biol.* 4: 21.
- Kim, J.E., et al. 2017. MerTK inhibition by RXDX-106 in MerTK activated gastric cancer cell lines. *Oncotarget* 8: 105727-105734.
- Zhao, F., et al. 2018. Irf8 regulates the progression of myeloproliferative neoplasm-like syndrome via MerTK signaling in zebrafish. *Leukemia* 32: 149-158.
- Santamaria-Barria, J.A., et al. 2019. Csf1r or Mer inhibition delays liver regeneration via suppression of Kupffer cells. *PLoS ONE* 14: e0216275.
- Birge, R.B., et al. 2019. Pan-TAM tyrosine kinase inhibitor BMS-777607 enhances anti-PD-1 mAb efficacy in a murine model of triple-negative breast cancer. *Cancer Res.* 79: 2669-2683.
- Xu, H., et al. 2019. MicroRNA-122 supports robust innate immunity in hepatocytes by targeting the RTKs/Stat3 signaling pathway. *Elife* 8: e41159.
- Al Kafri, N. and Hafizi, S. 2019. Tumour-secreted protein S (ProS1) activates a Tyro3-Erk signalling axis and protects cancer cells from apoptosis. *Cancers* 11: 1843.
- Du, W., et al. 2020. KPNB1-mediated nuclear translocation of PD-L1 promotes non-small cell lung cancer cell proliferation via the Gas6/MerTK signaling pathway. *Cell Death Differ.* 28: 1284-1300.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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