

# MerTK (M-217): sc-67281

## 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, 2 Fibronectin type-III domains and 2 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  $\gamma$ 2 (PI-PLC  $\gamma$ 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.

## REFERENCES

1. Graham, D.K., et al. 1994. Cloning and mRNA expression analysis of a novel human proto-oncogene, c-Mer. *Cell Growth Differ.* 5: 647-657.
2. Gal, A., et al. 2000. Mutations in MerTK, the human ortholog of the RCS rat retinal dystrophy gene, cause retinitis pigmentosa. *Nat. Genet.* 26: 270-271.

## CHROMOSOMAL LOCATION

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

## SOURCE

MerTK (M-217) is a rabbit polyclonal antibody raised against amino acids 1-217 mapping within an N-terminal extracellular domain of MerTK of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

MerTK (M-217) is recommended for detection of MerTK of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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.

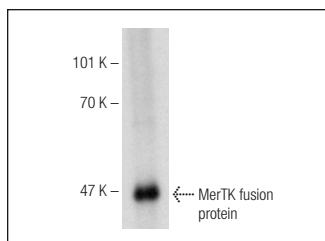
Molecular Weight of MerTK: 110 kDa.

Molecular Weight of glycosylated MerTK: 140-205 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



MerTK (M-217): sc-67281. Western blot analysis of human recombinant MerTK fusion protein.

## SELECT PRODUCT CITATIONS

1. Huang, C., et al. 2012. Combination of retinal pigment epithelium cell-conditioned medium and photoreceptor outer segments stimulate mesenchymal stem cell differentiation toward a functional retinal pigment epithelium cell phenotype. *J. Cell. Biochem.* 113: 590-598.
2. Park, H.J., et al. 2012. The TAM-family receptor Mer mediates production of HGF through the RhoA-dependent pathway in response to apoptotic cells. *Mol. Biol. Cell* 23: 3254-3265.
3. Yu, W., et al. 2014. Estrogen promotes Leydig cell engulfment by macrophages in male infertility. *J. Clin. Invest.* 124: 2709-2721.

## STORAGE

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

## RESEARCH USE

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



Try **MerTK (B-1): sc-365499** or **MerTK (B-4): sc-515338**, our highly recommended monoclonal alternatives to MerTK (M-217). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **MerTK (B-1): sc-365499**.