

MerTK (L-20): sc-66399

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 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.

REFERENCES

- 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.
- 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.
- D'Cruz, P.M., et al. 2000. Mutation of the receptor tyrosine kinase gene MerTK in the retinal dystrophic RCS rat. *Hum. Mol. Genet.* 9: 645-651.
- Kumar, A., et al. 2001. Retinitis pigmentosa: mutations in a receptor tyrosine kinase gene, MerTK. *J. Biosci.* 26: 3-5.
- Feng, W., et al. 2002. MerTK triggers uptake of photoreceptor outer segments during phagocytosis by cultured retinal pigment epithelial cells. *J. Biol. Chem.* 277: 17016-17022.
- Todt, J.C., et al. 2004. The receptor tyrosine kinase MerTK activates phospholipase C γ 2 during recognition of apoptotic thymocytes by murine macrophages. *J. Leukoc. Biol.* 75: 705-713.
- Graham, D.K., et al. 2006. Ectopic expression of the proto-oncogene Mer in pediatric T cell acute lymphoblastic leukemia. *Clin. Cancer Res.* 12: 2662-2669.

CHROMOSOMAL LOCATION

Genetic locus: Mertk (mouse) mapping to 2 F1.

SOURCE

MerTK (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of MerTK of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-66399 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MerTK (L-20) is recommended for detection of MerTK of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-37128, MerTK shRNA Plasmid (m): sc-37128-SH 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Gely-Pernot, A., et al. 2012. An endogenous vitamin K-dependent mechanism regulates cell proliferation in the brain subventricular stem cell niche. *Stem Cells* 30: 719-731.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **MerTK (B-1): sc-365499** or **MerTK (B-4): sc-515338**, our highly recommended monoclonal alternatives to MerTK (L-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **MerTK (B-1): sc-365499**.