

MerTK (m): 293 Lysate: sc-178930

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

1. Graham, D.K., et al. 1994. Cloning and mRNA expression analysis of a novel human protooncogene, c-mer. *Cell Growth Differ.* 5: 647-657.
2. Gal, A., et al. 2000. Mutations in MerTK, the human orthologue of the RCS rat retinal dystrophy gene, cause retinitis pigmentosa. *Nat. Genet.* 26: 270-271.
3. 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.
4. Kumar, A., et al. 2001. Retinitis pigmentosa: mutations in a receptor tyrosine kinase gene, MerTK. *J. Biosci.* 26: 3-5.
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.
6. 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.
7. 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.
8. Tschernutter, M., et al. 2006. Clinical characterisation of a family with retinal dystrophy caused by mutation in the MerTK gene. *Br. J. Ophthalmol.* 90: 718-723.
9. Cheong, H.S., et al. 2007. MerTK polymorphisms associated with risk of haematological disorders among Korean SLE patients. *Rheumatology* 46: 209-214.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

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

PRODUCT

MerTK (m): 293 Lysate represents a lysate of mouse MerTK transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

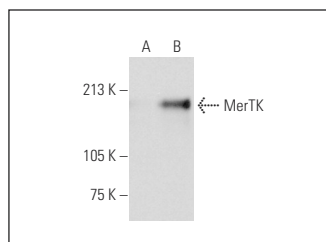
MerTK (m): 293 Lysate is suitable as a Western Blotting positive control for mouse reactive MerTK antibodies. Recommended use: 10-20 μ l per lane. Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

MerTK (B-1): sc-365499 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse MerTK expression in MerTK transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



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

RESEARCH USE

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