Anti-Human MERTK Antibody [PSH12-69] - BSA and Azide free (Capture)

HA723479

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Cap)
Clone number:	PSH12-69

Description: Receptor tyrosine kinase that transduces signals from the extracellular matrix into the cytoplasm by binding to several ligands including LGALS3, TUB, TULP1 or GAS6. Regulates many physiological processes including cell survival, migration, differentiation, and phagocytosis of apoptotic cells (efferocytosis). Ligand binding at the cell surface induces autophosphorylation of MERTK on its intracellular domain that provides docking sites for downstream signaling molecules. Following activation by ligand, interacts with GRB2 or PLCG2 and induces phosphorylation of MAPK1, MAPK2, FAK/PTK2 or RAC1. MERTK signaling plays a role in various processes such as macrophage clearance of apoptotic cells, platelet aggregation, cytoskeleton reorganization and engulfment. Functions in the retinal pigment epithelium (RPE) as a regulator of rod outer segments fragments phagocytosis. Also plays an important role in inhibition of Toll-like receptors (TLRs)-mediated innate immune response by activating STAT1, which selectively induces production of suppressors of cytokine signaling SOCS1 and SOCS3.

Immunogen: Recombinant protein within Human MERTK aa 21-505 (HA211172).

Positive control: Recombinant Human MERTK protein (HA211172).

Subcellular location: Cell membrane.

Database links: SwissProt: Q12866 Human

Recommended Dilutions:

ELISA(Cap) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH12-70] to Human MERTK antibody (Detector) (HA723480) and recombinant Human MERTK protein (HA211172) as the standard. The reference range value is 156-20,000 pg/mL.

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

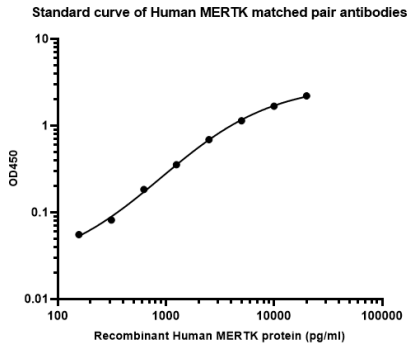

Fig1: Sandwich ELISA analysis of Human MERTK matched pair antibodies

Capture: HA723479, Human MERTK Rabbit mAb [PSH12-69]
Detector: HA723480, Human MERTK Rabbit mAb [PSH12-70]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723479) diluted in carbonate/bicarbonate buffer, at a concentration of 5ug/ml overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1%BSA blocking buffer, and incubated with serial diluted Recombinant Human MERTK protein (HA211172) starting from 20,000 pg/ml to 0 pg/ml and detect antibody (HA723480, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

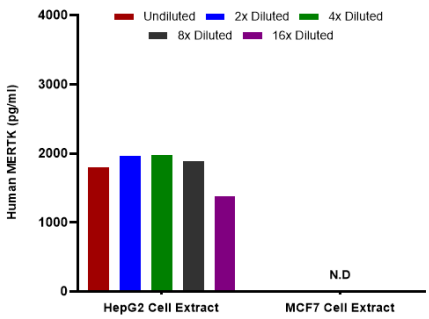

Fig2: Interpolated concentrations of native MERTK in HepG2 and MCF7 extract samples based on a 1000 µg/ml extract load.

Capture: HA723479, Human MERTK Rabbit mAb [PSH12-69]
Detector: HA723480, Human MERTK Rabbit mAb [PSH12-70]

Interpolated concentration of native MERTK was measured in duplicate at different sample concentrations and interpolated from the MERTK standard curves. The mean MERTK concentration was determined to be 1,799 pg/mL in Hep G2 cell extract, There was no detectable signal in MCF7 cell extract.

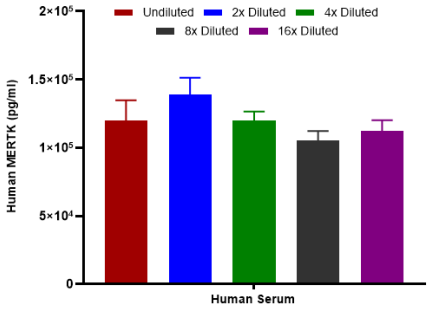

Fig3: Interpolated concentrations of native MERTK in human samples.

Capture: HA723479, Human MERTK Rabbit mAb [PSH12-69]
Detector: HA723480, Human MERTK Rabbit mAb [PSH12-70]

Interpolated concentration of native MERTK was measured in duplicate at different sample concentrations. Undiluted samples were 10% cell supernatant. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean MERTK concentration was determined to be 119,371 pg/mL in human serum.

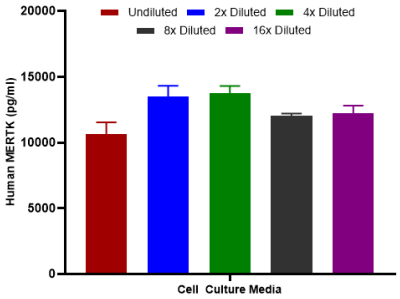

Fig4: Interpolated concentrations of spiked MERTK in cell culture media samples.

Capture: HA723479, Human MERTK Rabbit mAb [PSH12-69]
Detector: HA723480, Human MERTK Rabbit mAb [PSH12-70]

The concentrations of MERTK were measured in duplicates, interpolated from the MERTK standard curves and corrected for sample dilution. Undiluted samples are as follows: cell culture media 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Background References

1. Yan D et al. MERTK activation drives osimertinib resistance in EGFR-mutant non-small cell lung cancer. J Clin Invest. 2022 Aug
2. Pan Z et al. Inhibition of MERTK reduces organ fibrosis in mouse models of fibrotic disease. Sci Transl Med. 2024 Apr