

# MERTK Monoclonal Antibody (DS5MMER), Super Bright™ 780, eBioscience™

Product Details	
Size	100 µg
Species Reactivity	Mouse
Host/Isotype	Rat / IgG2a, kappa
Recommended Isotype Control	Rat IgG2a kappa Isotype Control (eBR2a), Super Bright™ 780, eBioscience™
Class	Monoclonal
Type	Antibody
Clone	DS5MMER
Conjugate	Super Bright™ 780
Excitation/Emission Max	413/780 nm
Immunogen	FC-tagged full protein expressed in insect cells
Form	Liquid
Concentration	0.2 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2, with BSA
Contains	0.09% sodium azide
Storage conditions	4° C, store in dark, DO NOT FREEZE!
RRID	AB_2762814

Applications	Tested Dilution	Publications
Western Blot (WB)	-	1 Publication
Immunohistochemistry (IHC)	-	1 Publication
Flow Cytometry (Flow)	1.0 µg/test	2 Publications

## Product Specific Information

Description: This DS5MMER monoclonal antibody recognizes mouse MerTK, a 170-210 kDa member of the TAM family of tyrosine kinase receptors that also includes Axl and Tyro3. MerTK is expressed on tissue macrophages and is involved in the removal of apoptotic cells. This process relies on two soluble ligands of MerTK, Protein S and Gas6 that bind to phosphatidylserine found on the outer leaflet of the plasma membrane of cells undergoing apoptosis. Upon binding these ligands, MerTK undergoes autophosphorylation at multiple tyrosine residues that activate the PI3K and Akt pathways. This results in the phagocytosis of apoptotic cells and also results in the direct inhibition of TLR-induced production of pro-inflammatory cytokines. In addition, MerTK may function as a putative entry receptor for filoviruses. Deficiency of MerTK causes general autoimmunity, inflammation and accumulation of apoptotic bodies. MerTK is constitutively released from the cell surface by metalloproteinases and thus is present in the serum and culture medium. This process can be enhanced by stimulation with LPS. MerTK can be used to help discriminate macrophages from dendritic cells. MerTK is often expressed on malignant cells and may be implicated in immune evasion.

The DS5MMER antibody will work on paraformaldehyde-fixed cells.

Applications Reported: This DS5MMER antibody has been reported for use in flow cytometric analysis.

**Applications Tested:** This DS5MMER antibody has been tested by flow cytometric analysis of resident peritoneal macrophages. This may be used at less than or equal to 1 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10<sup>5</sup> to 10<sup>8</sup> cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

Super Bright 780 is a tandem dye that can be excited with the violet laser line (405 nm) and emits at 780 nm. We recommend using a 780/60 bandpass filter. Please make sure that your instrument is capable of detecting this fluorochrome.

When using two or more Super Bright dye-conjugated antibodies in a staining panel, it is recommended to use Super Bright Complete Staining Buffer (Product # SB-4401) to minimize any non-specific polymer interactions. Please refer to the datasheet for Super Bright Staining Buffer for more information.

In some experiments, we have observed that compensation values for Super Bright 780-conjugated antibodies are higher in the violet 450/50 channel when using UltraComp eBeads microspheres (Product # 01-2222-42) as compared to single-color stained cells. In such circumstances, we would recommend setting compensation with cells. We have also observed this in some experiments using AbC Total Antibody Compensation beads (Product # A10497).

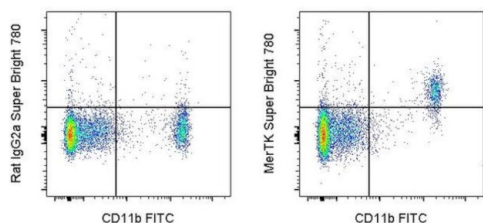
**Light sensitivity:** This tandem dye is sensitive to photo-induced oxidation. Please protect this vial and stained samples from light.

**Fixation:** Samples can be stored in IC Fixation Buffer (Product # 00-8222) (100 µL of cell sample + 100 µL of IC Fixation Buffer) or 1-step Fix/Lyse Solution (Product # 00-5333) for up to 3 days in the dark at 4°C with minimal impact on brightness and FRET efficiency/compensation. Some generalizations regarding fluorophore performance after fixation can be made, but clone specific performance should be determined empirically.

**Excitation:** 405 nm; **Emission:** 780 nm; **Laser:** Violet Laser

Super Bright Polymer Dyes are sold under license from Becton, Dickinson and Company.

## Product Images For MERTK Monoclonal Antibody (DS5MMER), Super Bright™ 780, eBioscience™



### MERTK Antibody (78-5751-82) in Flow

C57BL/6 mouse resident peritoneal macrophages were stained with CD11b Monoclonal Antibody, FITC (Product # 11-0112-82) and 0.5 µg of Rat IgG2a kappa Isotype Control, Super Bright 780 (Product # 78-4321-82) (left) or 0.5 µg of MerTK Monoclonal Antibody, Super Bright 780 (right). Total viable cells were used for analysis.

[View more figures on thermofisher.com](https://www.thermofisher.com)

## 4 References

### Western Blot (1)

Cell death & disease

#### TAM kinase signaling is indispensable for proper skeletal muscle regeneration in mice.

"Published figure using MERTK monoclonal antibody (Product # 78-5751-82) in Western Blot"

Authors: Al-Zaeed N, Budai Z, Szondy Z, Sarang Z

Year  
2021

### Immunohistochemistry (1)

MedComm

#### Single-cell transcriptomics reveals distinct cell response between acute and chronic pulmonary infection of *Pseudomonas aeruginosa*.

"Published figure using MERTK monoclonal antibody (Product # 78-5751-82) in Immunohistochemistry"

Authors: Hu X, Wu M, Ma T, Zhang Y, Zou C, Wang R, Zhang Y, Ren Y, Li Q, Liu H, Li H, Wang T, Sun X, Yang Y, Tang M, Li X, Li J, Gao X, Li T, Zhou X

Year  
2022

### Flow Cytometry (2)

Cellular and molecular gastroenterology and hepatology

#### AXL Expression on Homeostatic Resident Liver Macrophages Is Reduced in Cirrhosis Following GAS6 Production by Hepatic Stellate Cells.

"Published figure using MERTK monoclonal antibody (Product # 78-5751-82) in Flow Cytometry"

Authors: Pop OT, Geng A, Flint E, Singanayagam A, Ercan C, Possamai L, Patel VC, Kuenzler P, Meier MA, Soysal S, Hruz P, Kollmar O, Tatham KC, Ward JK, Müllhaupt B, Weber A, Wendon J, Niess JH, Heim M, Semela D, Weston C, Antoniadis CG, Terracciano LM, Triantafyllou E, Brenig RG, Bernsmeier C

Year  
2023

Cell death & disease

#### Ligand-dependent kinase activity of MERTK drives efferocytosis in human iPSC-derived macrophages.

"Published figure using MERTK monoclonal antibody (Product # 78-5751-82) in Flow Cytometry"

Authors: Wanke F, Gutbier S, Rummelin A, Steinberg M, Hughes LD, Koenen M, Komuczki J, Regan-Komito D, Wagage S, Hesselmann J, Thoma R, Brugger D, Christopeit T, Wang H, Point F, Hallet R, Ghosh S, Rothlin CV, Patsch C, Geering B

Year  
2021

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