

Phospho-mTOR (Ser2448) Monoclonal Antibody (MRRBY), eFluor™ 450, eBioscience™

| Product Details | |
|-----------------------------|--|
| Size | 100 Tests |
| Species Reactivity | Human, Mouse |
| Published Species | Mouse |
| Host/Isotype | Mouse / IgG2a, kappa |
| Recommended Isotype Control | Mouse IgG2a kappa Isotype Control (eBM2a), eFluor™ 450, eBioscience™ |
| Class | Monoclonal |
| Type | Antibody |
| Clone | MRRBY |
| Conjugate | eFluor™ 450 |
| Excitation/Emission Max | 405/445 nm |
| Form | Liquid |
| Concentration | 5 µL/Test |
| Purification | Affinity chromatography |
| Storage buffer | PBS, pH 7.2, with 0.2% BSA |
| Contains | 0.09% sodium azide |
| Storage conditions | 4° C, store in dark, DO NOT FREEZE! |
| RRID | AB_2574127 |

| Applications | Tested Dilution | Publications |
|-----------------------|---------------------|----------------|
| Flow Cytometry (Flow) | 5 µL (0.06 µg)/test | 4 Publications |

Product Specific Information

Description: This MRRBY monoclonal antibody recognizes human and mouse mammalian target of rapamycin (also known as mTOR, FRAP, RAFT) when phosphorylated on S2448. mTOR is a serine/threonine protein kinase that functions as an ATP and amino acid sensor as well as to balance nutrient availability with cell growth, proliferation, motility, survival, protein synthesis, and transcription. Activated mTOR increases production of enzymes necessary for glycolysis and controls the uptake of glucose and other nutrients. Increased glucose uptake and metabolism helps fulfill the energy needs for mTOR-driven cell growth and proliferation. When sufficient nutrients are available, mTOR transmits a positive signal to p70 S6 kinase and participates in the inactivation of the eIF4E inhibitor, 4E-BP1. mTOR is phosphorylated at S2448 via the PI3 kinase/Akt signaling pathway and is autophosphorylated at Ser2481. Due to its critical role in regulation of cell growth, survival, and metabolism, and because it is often abnormally regulated in tumors, mTOR is under investigation as a potential target for anti-cancer therapy.

Applications Reported: This MRRBY antibody has been reported for use in intracellular staining followed by flow cytometric analysis.

Applications Tested: This MRRBY antibody has been pre-titrated and tested by intracellular staining followed by flow cytometric analysis of stimulated normal human peripheral blood cells. This can be used at 5 µL (0.06 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 10⁵ to 10⁸ cells/test.

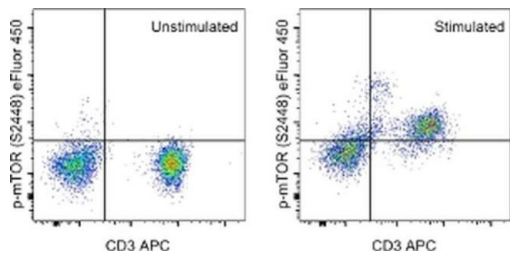
Staining Protocol: All protocols work well for this monoclonal antibody. Use of Protocol A: Two-step protocol: intracellular (cytoplasmic) proteins allows for the greatest flexibility for detection of surface and intracellular (cytoplasmic) proteins. Use of Protocol B: One-step protocol: intracellular (nuclear) proteins is recommended for staining of transcription factors in conjunction with surface and phosphorylated intracellular (cytoplasmic) proteins. Protocol C: Two-step protocol: Fixation /Methanol allows for the greatest discrimination of phospho-specific signaling between unstimulated and stimulated samples, but with limitations on the ability to stain specific surface proteins (refer to "Clone Performance Following Fixation /Permeabilization" located in the Best Protocols Section under the Resources tab online). All Protocols can be found in the Flow Cytometry Protocols: "Staining Intracellular Antigens for Flow Cytometry Protocol" located in the Best Protocols Section under the Resources tab online.

eFluor® 450 is an alternative to Pacific Blue®. eFluor® 450 emits at 445 nm and is excited with the Violet laser (405 nm). Please make sure that your instrument is capable of detecting this fluorochohme.

Excitation: 405 nm; Emission: 445 nm; Laser: Violet Laser.

Filtration: 0.2 µm post-manufacturing filtered.

Product Images For Phospho-mTOR (Ser2448) Monoclonal Antibody (MRRBY), eFluor™ 450, eBioscience™



Phospho-mTOR (Ser2448) Antibody (48-9718-42) in Flow
Normal human peripheral blood cells were unstimulated (left) or stimulated with Anti-Human CD3 and CD28 Functional Grade Purifieds (Product # 16-0037-81 and Product # 16-0289-81) for 48 hours (right). The cells were then intracellularly stained with Anti-Human CD3 APC (Product # 17-0036-42) and Anti-Human /Mouse phospho-mTOR (S2448) eFluor® 450 using the Intracellular Fixation & Permeabilization Buffer Set (Product # 88-8824-00) and protocol. Cells in the lymphocyte gate were used for analysis.

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4 References

Flow Cytometry (4)

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| <p>Nature communications</p> <p>Intestinal microbiota-derived short-chain fatty acids regulation of immune cell IL-22 production and gut immunity.</p> <p>"Published figure using Phospho-mTOR (Ser2448) monoclonal antibody (Product # 48-9718-42) in Flow Cytometry"</p> <p>Authors: Yang W,Yu T,Huang X,Bilotta AJ,Xu L,Lu Y,Sun J,Pan F,Zhou J,Zhang W,Yao S,Maynard CL,Singh N,Dann SM,Liu Z,cong Y</p> | <p>Year 2020</p> |
| <p>Cell</p> <p>Long-Term Programming of CD8 T Cell Immunity by Perinatal Exposure to Glucocorticoids.</p> <p>"48-9718 was used in Flow cytometry/Cell sorting to demonstrate that perinatal stress can have long-term consequences on CD8 T cell immunity by altering HPA axis activity."</p> <p>Authors: Hong JY,Lim J,Carvalho F,Cho JY,Vaidyanathan B,Yu S,Annicielli C,Ip WKE,Medzhitov R</p> | <p>Year 2020</p> <p>Species Mouse</p> |

View more Flow references on thermofisher.com

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