

**Product Name: KD-Validated Phospho-mTOR (S2448) Recombinant Rabbit Monoclonal Antibody**

**Catalog #: KVA00999**

For research use only.

## Summary

|                     |                                                                             |
|---------------------|-----------------------------------------------------------------------------|
| <b>Description</b>  | KO&KD-Validated antibody                                                    |
| <b>Host</b>         | Rabbit                                                                      |
| <b>Application</b>  | WB,FCM,ICC,IHC-P                                                            |
| <b>Reactivity</b>   | Human,Mouse,Rat                                                             |
| <b>Conjugation</b>  | Unconjugated                                                                |
| <b>Modification</b> | Unmodified                                                                  |
| <b>Isotype</b>      | Rabbit IgG                                                                  |
| <b>Clonality</b>    | Rabbit mAb                                                                  |
| <b>Form</b>         | Liquid                                                                      |
| <b>Storage</b>      | Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles. |
| <b>Shipping</b>     | Ice bags                                                                    |
| <b>Buffer</b>       | Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.   |
| <b>Purification</b> | Affinity purification                                                       |

## Application

|                         |                                                                            |
|-------------------------|----------------------------------------------------------------------------|
| <b>Dilution Ratio</b>   | WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000; IHC-P 1:100-1:200 |
| <b>Molecular Weight</b> | Calculated MW: 288.9kDa                                                    |

## Antigen Information

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>         | MTOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Alternative Names</b> | Mechanistic Target Of Rapamycin Kinase; RAFT1; RAPT1; Rapamycin And FKBP12 Target 1; Mammalian Target Of Rapamycin; FRAP1; FRAP2; FRAP; FK506-Binding Protein 12-Rapamycin Complex-Associated Protein 1; Mechanistic Target Of Rapamycin (Serine/Threonine Kinase); FK506 Binding Protein 12-Rapamycin Associated Protein 2; FKBP12-Rapamycin Complex-Associated Protein 1; Serine/Threonine-Protein Kinase MTOR; Rapamycin Associated Protein FRAP2; FKBP-Rapamycin Associated Protein; Mechanistic Target Of Rapamycin; Rapamycin Target Protein 1; FLJ44809; DJ576K7.1 (FK506 Binding Protein 12-Rapamycin Associated Protein 1); FK506 Binding Protein 12-Rapamycin Associated Protein 1; FKBP12-Rapamycin Complex-Associated Protein; Rapamycin Target |

|                     |                                                               |
|---------------------|---------------------------------------------------------------|
|                     | Protein; EC 2.7.11.1; MTOR; SKS                               |
| <b>Gene ID</b>      | 2475.0                                                        |
| <b>SwissProt ID</b> | P42345                                                        |
| <b>Immunogen</b>    | A synthesized peptide derived from human Phospho-mTOR (S2448) |

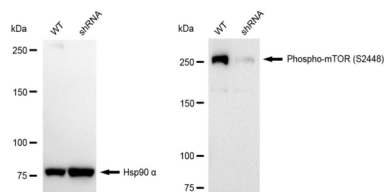
## Background

The protein encoded by this gene belongs to a family of phosphatidylinositol kinase-related kinases. These kinases mediate cellular responses to stresses such as DNA damage and nutrient deprivation. This kinase is a component of two distinct complexes, mTORC1, which controls protein synthesis, cell growth and proliferation, and mTORC2, which is a regulator of the actin cytoskeleton, and promotes cell survival and cell cycle progression. This protein acts as the target for the cell-cycle arrest and immunosuppressive effects of the FKBP12-rapamycin complex. Inhibitors of mTOR are used in organ transplants as immunosuppressants, and are being evaluated for their therapeutic potential in SARS-CoV-2 infections. Mutations in this gene are associated with Smith-Kingsmore syndrome and somatic focal cortical dysplasia type II. The ANGPTL7 gene is located in an intron of this gene. [provided by RefSeq, Aug 2020]

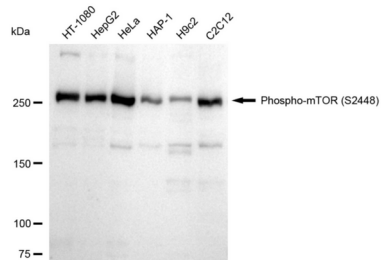
## Research Area

Cell Biology, Epigenetics and Nuclear Signaling, Cancer, Cardiovascular, Metabolism, Neuroscience

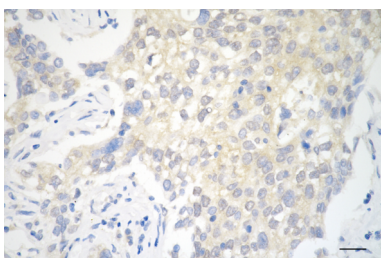
## Image Data



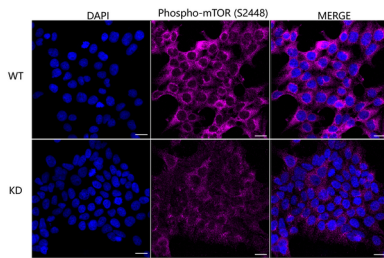
Western blotting analysis using Phospho-mTOR (S2448) antibody (KVA00999). Phospho-mTOR (S2448) expression in wild type (WT) and Phospho-mTOR (S2448) shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with Phospho-mTOR (S2448) antibody (KVA00999, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



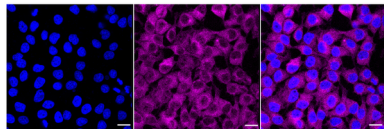
Western blotting analysis using phospho-mTOR (S2448) antibody (KVA00999). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with phospho-mTOR (S2448) antibody (KVA00999, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



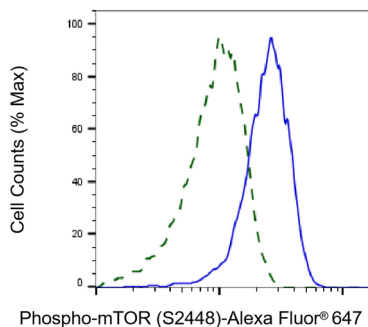
Immunohistochemistry was performed on paraffin-embedded human breast carcinoma using phospho-mTOR (S2448) antibody (KVA00999, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40× objective). Scale bar: 25 µm.



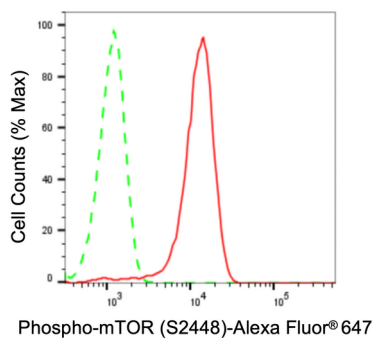
Immunocytochemical staining of HeLa cells using Phospho-mTOR (S2448) antibody (KVA00999, 1:1,000), Top panel: wild-type (WT); Bottom panel: Phospho-mTOR (S2448) shRNA knockdown (KD). Nuclei were stained blue with DAPI; Phospho-mTOR (S2448) was stained magenta with Alexa Fluor® 647. Scale bar, 20 μm.



Immunocytochemical staining of HeLa cells with Phospho-mTOR (S2448) antibody (KVA00999, 1:1,000). Nuclei were stained blue with DAPI; Phospho-mTOR (S2448) was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 μm.



Validation of mTOR knockdown using flow cytometry. Wild-type(WT, Blue) and knockdown(KD, Green) HeLa cells were stained with Phospho-mTOR (S2448) antibody (KVA00999, 1:2,000) and analyzed using BD flow cytometer.



Flow cytometric analysis of phospho-mTOR (S2448) expression in HeLa cells using phospho-mTOR (S2448) antibody (KVA00999, 1:2,000). Green, isotype control; red, Phospho-mTOR (S2448).