



TOR Signaling Pathway Detection Set

Cat. No.: PSI-1805



Ψ Specifications

SPECIES REACTIVITY:	Human
IMMUNOGEN:	Rabbit polyclonal antibodies were raised against peptides corresponding to amino acid sequences from each of the corresponding proteins.
TESTED APPLICATIONS:	IF, IHC, WB
APPLICATIONS:	These polyclonal antibodies can be used for detection of the indicated proteins of the TOR signaling pathway by Western blot at 1 µg/mL to 4 µg/mL , Immunohistochemistry, and Immunofluorescence.
POSITIVE CONTROL:	<p>1) L1210 Lysate (for TOR, Raptor and TSC2), Cat. No. 1284</p> <p>Human Brain Lysate (for GBL), Cat. No. 1303</p> <p>Mouse Brain Lysate (for Rheb), Cat. No. 1403</p> <p>C2C12 Lysate (for TSC1), Cat. No. 1285</p> <p>3T3 Lysate (for 4E-BP1), Cat. No. 1212</p> <p>Human Liver Lysate (for Akt1), Cat. No. 1304</p>

Ψ Properties

PURIFICATION:	Antibodies are supplied as affinity chromatography purified IgG.
PHYSICAL STATE:	Liquid
BUFFER:	PBS containing 0.02% sodium azide.
CONCENTRATION:	Antibody 1 mg/mL
STORAGE CONDITIONS:	Stable at 4 °C for three months, store at -20 °C for up to one year.

Ψ Additional Info

USER NOTE:	Optimal dilutions for each application to be determined by the researcher.
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Ψ Background and References

BACKGROUND:	<p>The mammalian Target of Rapamycin (TOR, also known as mTOR) is an evolutionarily conserved serine/threonine kinase that regulates cell growth and cell cycle progression through its ability to integrate signals from nutrient levels and growth factors. TOR regulation is accomplished through a network of various activators and repressors. It is phosphorylated by Akt, whose activity is indirectly inhibited by the lipid phosphatase PTEN. TOR is normally associated with the regulatory proteins RAPTOR, a scaffold protein whose binding by TOR substrates is necessary for effective TOR-catalyzed phosphorylation, and GBL, which stimulates TOR's kinase activity towards downstream proteins. It is further regulated by the proteins Rheb, TSC1 and TSC2, which act to modulate TOR activity. The downstream targets of TOR are thought to be the ribosomal protein S6 kinases and the eukaryotic initiation factor 4E binding proteins (4EBPs) whose activation leads to increased protein translation and cell growth.</p> <p>For images please see PDF data sheet</p>
REFERENCES:	<p>1) Shamji AF, Ngheim P, and Schreiber SL. Integration of growth factor and nutrient signaling: implications for cancer biology. <i>Mol. Cell</i> 2003; 12:271-80.</p> <p>2) Nave BT, Ouwens M, Withers DJ, et al. Mammalian target of rapamycin is a direct target for protein kinase B: Identification of a convergence point for opposing effects of insulin and amino-acid deficiency on protein translation. <i>Biochem. J.</i> 1999; 344:427-31.</p> <p>3) Yonezawa K, Tokunaga C, Oshiro N, et al. Raptor, a binding partner of target of rapamycin. <i>Biochem. Biophys. Res. Commun.</i> 24; 313:437-441.</p> <p>4) Fingar DC and Blenis J. Target of rapamycin (TOR): an integrator of nutrient and growth factor signals and coordinator of cell growth and cell cycle progression. <i>Oncogene</i> 2004; 23:3151-71.</p>

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