Data Sheet (Cat.No.TMAB-12091)

Anti-Raptor Antibody (4Q46)

Product Details

Ig Type:	IgG1
Reactivity:	Human
Molecular Weight:	Theoretical: 147 kDa. Actual: 140 kDa.
Clone:	4Q46
Purification:	Protein G purified

Applications

Verified Activity:	Sample: A549 (Human) Cell Lysate at 30 µg k562 (human) Cell Lysate at 30 µg Primary: Anti-Raptor (TMAB-12091) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution Predicted band size: 147 kD Observed band size: 140 kD
Application:	WB,ELISA
Recommended	WB: 1:500-2000; ELISA: 1:5000-10000

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	Recombinant Protein: human Raptor protein
Antigen Species:	Human
Gene ID:	57521
Uniprot ID:	Q8N122

Research Background

mTOR controls cell growth, in part by regulating p70 S6 kinase alpha (p70alpha) and eukaryotic initiation factor 4E binding protein 1 (4EBP1). Raptor is a 150 kDa mTOR binding protein that also binds 4EBP1 and p70alpha. The binding of Raptor to mTOR is necessary for the mTOR-catalyzed phosphorylation of 4EBP1 in vitro, and it strongly enhances the mTOR kinase activity toward p70alpha. Rapamycin or amino acid withdrawal increases, whereas insulin strongly inhibits, the recovery of 4EBP1 and raptor on 7-methyl-GTP Sepharose. Partial inhibition of raptor expression by RNA interference (RNAi) reduces mTOR-catalyzed 4EBP1 phosphorylation in vitro. RNAi of C. elegans raptor yields an array of phenotypes that closely resemble those produced by inactivation of Ce-TOR. Thus, raptor is an essential scaffold for the mTOR-catalyzed phosphorylation of 4EBP1 and mediates TOR action in vivo.

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