

mTOR Substrates Antibody Sampler Kit

Cat# AK0195

Upon receipt, store at -20°C. Avoid freeze/thaw cycles.

PRODUCT DESCRIPTION

The mammalian target of rapamycin (mTOR, FRAP, RAFT) is a Ser/Thr protein kinase that functions as an ATP and amino acid sensor to balance nutrient availability and cell growth. When sufficient nutrients are available, mTOR responds to a phosphatidic acid-mediated signal to transmit a positive signal to p70 S6 kinase and participate in the inactivation of the eIF4E inhibitor, 4E-BP1. These events result in the translation of specific mRNA subpopulations. mTOR is phosphorylated at Ser2448 via the PI3 kinase/Akt signaling pathway and autophosphorylated at Ser2481. mTOR plays a key role in cell growth and homeostasis and may be abnormally regulated in tumors. For these reasons, mTOR is currently under investigation as a potential target for anti-cancer therapy. The regulatory associated protein of mTOR (Raptor) interacts with mTOR to mediate mTOR signaling to downstream targets. Raptor binds to mTOR substrates, such as 4E-BP1 and p70 S6 kinase, through their TOR signaling (TOS) motifs and is required for mTOR-mediated substrate phosphorylation. Binding of the FKBP12-rapamycin complex to mTOR inhibits mTOR-raptor interaction, which suggests a mechanism for the inhibition of mTOR signaling by rapamycin. This mTOR-raptor interaction and its regulation by nutrients and/or rapamycin are dependent on a protein called GβL. GβL is part of the rapamycin-insensitive complex between mTOR and rictor (rapamycin-insensitive companion of mTOR) and may mediate rictor-mTOR signaling to PKCα and other downstream targets. The rictor-mTOR complex has been identified as the previously elusive PDK2 responsible for the phosphorylation of Akt/PKB at Ser473, which is required for PDK1 phosphorylation of Akt/PKB at Thr308 and full activation of Akt/PKB.

PRODUCT INCLUDES

Cat No.	Product name	Quantity	Applications	Reactivity	Host
A340257	Phospho-mTOR (Ser2448) Polyclonal Antibody	20μL	WB, IHC, IF, ELISA	Human, Mouse, Rat	Rabbit
A340598	mTOR Polyclonal Antibody	20μL	WB, IHC, ELISA	Human, Mouse, Rat	Rabbit
A340616	p70 S6 kinase alpha Polyclonal Antibody	20μL	WB, IHC, IF, ELISA	Human, Mouse, Rat	Rabbit
A340345	Phospho-p70 S6 kinase alpha (Ser371) Polyclonal Antibody	20μL	WB, IHC, ELISA	Human, Mouse, Rat	Rabbit

A1013s	Goat Anti-Rabbit IgG (H+L) (peroxidase/HRP conjugated)	120µL	WB, ELISA	Rabbit	Goat
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PRODUCT USE LIMITATION

These products are intended for research use only.