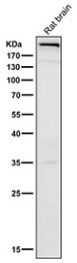
mTOR Antibody / Mammalian target of rapamycin [clone 32M82] (FY12751)

Catalog No.	Formulation	Size
FY12751	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32M82
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P42345
Applications	Western Blot : 1:500-1:2000
Limitations	This MTOR antibody is available for research use only.



Rat brain tissue lysate tested with the MTOR antibody at 1:500 dilution for 1 hour at room temperature. Predicted molecular weight ~289 kDa.

Description

mTOR antibody detects mechanistic target of rapamycin, encoded by the MTOR gene. Common alternate names include FRAP1, RAFT1, and RAPT1. mTOR is a serine threonine kinase that integrates nutrient, energy, and growth factor signals to regulate cell growth, metabolism, and survival. As the catalytic core of the mTORC1 and mTORC2 complexes,

it influences protein synthesis, lipid metabolism, and cytoskeletal organization. mTOR is highly conserved and functions as a central regulator of cellular homeostasis.

mTOR antibody is widely applied in cancer research, immunology, and metabolism. In cancer, hyperactivation of mTOR pathways drives uncontrolled proliferation and metabolic reprogramming. In immunology, mTOR regulates T cell differentiation and macrophage function. In metabolic biology, mTOR senses nutrient status and controls autophagy. By detecting mTOR protein, researchers can study how this kinase integrates diverse signals to maintain balance or promote disease.

Validated applications for mTOR antibody include western blotting, immunohistochemistry, and immunofluorescence. Western blotting reveals mTOR expression and size, immunohistochemistry maps distribution in tumors and tissues, and immunofluorescence highlights subcellular localization at lysosomes and other compartments. These methods provide strong experimental tools to characterize mTOR biology.

Dysregulation of mTOR signaling contributes to cancer, diabetes, cardiovascular disease, and neurodegeneration. Mutations and upstream activation of PI3K and Akt lead to aberrant mTOR activity. Therapeutically, mTOR inhibitors such as rapamycin and its analogs are used to treat cancer and transplantation related immune suppression. Antibody based detection of mTOR supports both mechanistic studies and translational applications.

mTOR antibody from NSJ Bioreagents provides dependable specificity for mechanistic target of rapamycin. Its robust performance supports research across molecular biology, oncology, and clinical translational fields.

Application Notes

Optimal dilution of the MTOR antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human mTOR was used as the immunogen for the MTOR antibody.

Storage

Store the MTOR antibody at -20oC.