Phospho-TSC2 (pThr1462) Antibody / Tuberin [clone 32T36] (FY12155)

Catalog No.	Formulation	Size
FY12155	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
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32T36
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	P49815
Applications	Western blot: 1:500-1:2000 Immunohistochemistry: 1:50-1:200
Limitations	This Phospho-TSC2 (pThr1462) antibody is available for research use only.

Description

Phospho-TSC2 (pThr1462) antibody recognizes tuberin (TSC2) when phosphorylated at threonine 1462, a regulatory event in the mTOR signaling pathway. TSC2 forms a complex with hamartin (TSC1) to inhibit Rheb, thereby suppressing mTORC1 activation. Phosphorylation at Thr1462 by Akt inhibits TSC2 activity, releasing Rheb and promoting mTORC1-driven protein synthesis, growth, and metabolism.

Research using Phospho-TSC2 (pThr1462) antibody has demonstrated the importance of this modification in cancer, metabolism, and neurological disorders. Hyperactivation of the PI3K/Akt/mTOR pathway leads to excessive TSC2 phosphorylation, driving tumor growth and resistance to therapies. In metabolic disease, phosphorylation at Thr1462 connects insulin signaling to mTOR regulation, linking nutrient availability to anabolic metabolism. In tuberous sclerosis complex, mutations in TSC2 disrupt regulation and contribute to hamartoma formation.

Phosphorylation at Thr1462 is often used as a readout for Akt activity and mTOR pathway engagement. Monitoring this event helps researchers assess responses to targeted inhibitors, including PI3K and mTOR inhibitors in oncology and metabolic studies. It also provides insight into neuronal development, as mTOR signaling governs synapse formation and plasticity.

Antibodies specific for phospho-TSC2 (Thr1462) are validated for western blot, immunohistochemistry, and immunofluorescence. These reagents selectively detect the phosphorylated protein, distinguishing it from total TSC2. Clone-validated antibodies ensure reproducibility in both basic research and translational studies.

NSJ Bioreagents offers this Phospho-TSC2 (pThr1462) antibody to support research in cancer, metabolism, and neuroscience.

Application Notes

Optimal dilution of the Phospho-TSC2 (pThr1462) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Tuberin (T1462) was used as the immunogen for the Phospho-TSC2 (pThr1462) antibody.

Storage

Store the Phospho-TSC2 (pThr1462) antibody at -20oC.

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