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Anti-Raptor RPTOR Rabbit Monoclonal Antibody

Catalog # ABO13836

Specification

Anti-Raptor RPTOR Rabbit Monoclonal Antibody - Product Information

Application	**WB, IHC, IF, ICC, IP, FC**
Primary Accession	Q8N122
Host	**Rabbit**
Isotype	**Rabbit IgG**
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Format	**Liquid**

Description
Anti-Raptor RPTOR Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Anti-Raptor RPTOR Rabbit Monoclonal Antibody - Additional Information

Gene ID 57521

Other Names
Regulatory-associated protein of mTOR, Raptor, p150 target of rapamycin (TOR)-scaffold protein, RPTOR (HGNC:30287)

Calculated MW
149038 MW KDa

Application Details
WB 1:500-1:1000
IHC 1:50-1:100
ICC/IF 1:50-1:100
IP 1:30
FC 1:30

Subcellular Localization
Cytoplasm. Lysosome. Cytoplasmic granule. Targeting to lysosomes depends on amino acid availability. In arsenite-stressed cells, accumulates in stress granules when associated with SPAG5 and association with lysosomes is drastically decreased.

Tissue Specificity
Highly expressed in skeletal muscle, and in a lesser extent in brain, lung, small intestine, kidney and placenta. Isoform 3 is widely expressed, with highest levels in nasal mucosa and pituitary and lowest in spleen..

Contents
Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen
A synthesized peptide derived from human Raptor

Purification

Affinity-chromatography

Storage	**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

Anti-Raptor RPTOR Rabbit Monoclonal Antibody - Protein Information

Name RPTOR (HGNC:30287)

Function
Component of the mechanistic target of rapamycin complex 1 (mTORC1), an evolutionarily conserved central nutrient sensor that stimulates anabolic reactions and macromolecule biosynthesis to promote cellular biomass generation and growth (PubMed:12150925, PubMed:12150926, PubMed:12747827, PubMed:24403073, PubMed:26588989, PubMed:32561715, PubMed:37541260). In response to nutrients, growth factors or amino acids, mTORC1 is recruited to the lysosome membrane and promotes protein, lipid and nucleotide synthesis by phosphorylating several substrates, such as ribosomal protein S6 kinase (RPS6KB1 and RPS6KB2) and EIF4EBP1 (4E-BP1) (PubMed:12150925, PubMed:12150926, PubMed:12747827, PubMed:24403073, PubMed:26588989, PubMed:37541260). In the same time, it inhibits catabolic pathways by phosphorylating the autophagy initiation components ULK1 and ATG13, as well as transcription factor TFEB, a master regulators of lysosomal biogenesis and autophagy (PubMed:12150925, PubMed:12150926, PubMed:12747827, PubMed:24403073, PubMed:32561715, PubMed:37541260). The mTORC1 complex is inhibited in response to starvation and amino acid depletion (PubMed:12150925, PubMed:12150926, PubMed:12747827, PubMed:24403073, PubMed:37541260). Within the mTORC1 complex, RPTOR acts both as a molecular adapter, which (1) mediates recruitment of mTORC1 to lysosomal membranes via interaction with small GTPases Rag (RagA/RRAGA, RagB/RRAGB, RagC/RRAGC and/or RagD/RRAGD), and a (2) substrate-specific adapter, which promotes substrate specificity by binding to TOS motif-containing proteins and direct them towards the active site of the MTOR kinase domain for phosphorylation (PubMed:12747827, PubMed:24403073, PubMed:26588989, PubMed:37541260). mTORC1 complex regulates many cellular processes, such as odontoblast and osteoclast differentiation or neuronal transmission (By similarity). mTORC1

complex in excitatory neuronal transmission is required for the prosocial behavior induced by the psychoactive substance lysergic acid diethylamide (LSD) (By similarity).

Cellular Location
Lysosome membrane. Cytoplasm Cytoplasmic granule. Note=Targeting to lysosomes depends on amino acid availability: recruited to lysosome membranes via interaction with GTP-bound form of RagA/RRAGA (or RagB/RRAGB) in complex with the GDP-bound form of RagC/RRAGC (or RagD/RRAGD), promoting recruitment of mTORC1 to the lysosomes (PubMed:31601708, PubMed:31601764). In arsenite-stressed cells, accumulates in stress granules when associated with SPAG5 and association with lysosomes is drastically decreased (PubMed:23953116).

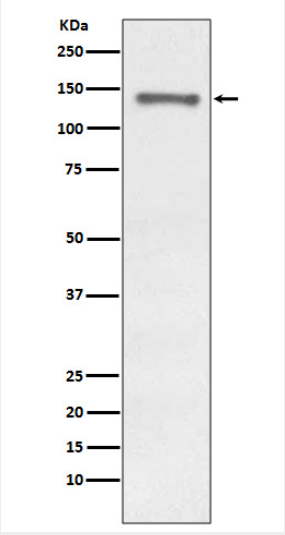
Tissue Location
Highly expressed in skeletal muscle, and in a lesser extent in brain, lung, small intestine, kidney and placenta

Anti-Raptor RPTOR Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Raptor RPTOR Rabbit Monoclonal Antibody - Images



Western blot analysis of Raptor expression in MCF-7 cell lysate.