

Raptor (N-19): sc-27744

BACKGROUND

Regulatory associated protein of FRAP, also designated Raptor, is a binding partner for mammalian target of Rapamycin kinase (FRAP) and is essential for FRAP signaling *in vivo*. Raptor binding to FRAP is critical for FRAP-catalyzed substrate phosphorylation of 4E-BP1. The Raptor-FRAP complex is nutrient-sensitive and is important for a mechanism by which cells coordinate cell growth and size with changing environmental conditions. Raptor serves as a negative regulator of FRAP kinase activity under nutrient-deprived conditions and is an important component in the FRAP pathway. Raptor is highly expressed in skeletal muscle and to a lesser extent in brain, kidney, lung and placenta.

REFERENCES

1. Hara, K., et al. 2002. Raptor, a binding partner of target of rapamycin (TOR), mediates TOR action. *Cell* 110: 177-189.
2. Nijima, H., et al. 2003. The mammalian target of rapamycin (mTOR) partner, raptor, binds the mTOR substrates p70 S6 kinase and 4E-BP1 through their TOR signaling (TOS) motif. *J. Biol. Chem.* 278: 15461-15464.
3. Yonezawa, K., et al. 2004. Raptor, a binding partner of target of Rapamycin. *Biochem. Biophys. Res. Commun.* 313: 437-441.
4. Kim, D.H. and Sabatini, D.M. 2004. Raptor and mTOR: subunits of a nutrient-sensitive complex. *Curr. Top. Microbiol. Immunol.* 279: 259-270.
5. Oshiro, N., et al. 2004. Dissociation of raptor from mTOR is a mechanism of rapamycin-induced inhibition of mTOR function. *Genes Cells* 9: 359-366.
6. Ali, S.M. and Sabatini, D.M. 2005. Structure of S6 kinase 1 determines whether raptor-mTOR or rictor-mTOR phosphorylates its hydrophobic motif site. *J. Biol. Chem.* 280: 19445-19448.
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CHROMOSOMAL LOCATION

Genetic locus: RPTOR (human) mapping to 17q25.3; Rptor (mouse) mapping to 11 E2.

SOURCE

Raptor (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Raptor of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27744 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Raptor (N-19) is recommended for detection of Raptor isoforms 1, 2 and 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

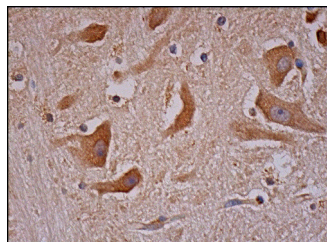
Raptor (N-19) is also recommended for detection of Raptor in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for Raptor siRNA (h): sc-44069, Raptor siRNA (m): sc-108002, Raptor shRNA Plasmid (h): sc-44069-SH, Raptor shRNA Plasmid (m): sc-108002-SH, Raptor shRNA (h) Lentiviral Particles: sc-44069-V and Raptor shRNA (m) Lentiviral Particles: sc-108002-V.

Molecular weight of Raptor isoforms 1/2/3: 149/43/132 kDa.

Positive Controls: AML-193 whole cell lysate: sc-364182.

DATA



Raptor (N-19): sc-27744. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of hematopoietic cells, glial cells and endothelial cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **Raptor (10E10): sc-81537**, our highly recommended monoclonal alternative to Raptor (N-19).