SANTA CRUZ BIOTECHNOLOGY, INC.

Raptor (B-8): sc-518111

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 signalling *in vivo*. Raptor binding to FRAP is critical for FRAP-catalysed 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

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2. Nojima, H., Tokunaga, C., Eguchi, S., Oshiro, N., Hidayat, S., Yoshino, K., Hara, K., Tanaka, N., Avruch, J. and Yonezawa, K. 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., Tokunaga, C., Oshiro, N. and Yoshino, K. 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., Yoshino, K., Hidayat, S., Tokunaga, C., Hara, K., Eguchi, S., Avruch, J. and Yonezawa, K. 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 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 83-111 near the N-terminus of Raptor of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Raptor (B-8) is recommended for detection of Raptor of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Raptor siRNA (h): sc-44069, Raptor siRNA (m): sc-108002, Raptor siRNA (r): sc-270140, Raptor shRNA Plasmid (h): sc-44069-SH, Raptor shRNA Plasmid (m): sc-108002-SH, Raptor shRNA Plasmid (r): sc-270140-SH, Raptor shRNA (h) Lentiviral Particles: sc-44069-V, Raptor shRNA (m) Lentiviral Particles: sc-108002-V and Raptor shRNA (r) Lentiviral Particles: sc-270140-V.

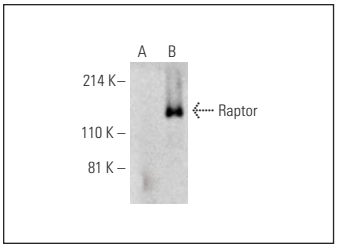
Molecular Weight of Raptor isoforms 1-3: 149/43/132 kDa.

Positive Controls: Raptor (m): 293 Lysate: sc-179401, PANC-1 whole cell lysate: sc-364380 or C2C12 whole cell lysate: sc-364188.

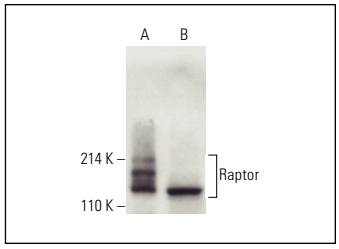
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Raptor (B-8): sc-518111. Western blot analysis of Raptor expression in non-transfected: sc-117752 (**A**) and mouse Raptor transfected: sc-179401 (**B**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.



Raptor (B-8): sc-518111. Western blot analysis of Raptor expression in PANC-1 (**A**) and C2C12 (**B**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

STORAGE

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

RESEARCH USE

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