SANTA CRUZ BIOTECHNOLOGY, INC.

Raptor (A-2): sc-518004

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 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. Nojima, 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.

CHROMOSOMAL LOCATION

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

SOURCE

Raptor (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 84-109 near the N-terminus of Raptor of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Raptor (A-2) is available conjugated to agarose (sc-518004 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518004 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518004 PE), fluorescein (sc-518004 FITC), Alexa Fluor® 488 (sc-518004 AF488), Alexa Fluor® 546 (sc-518004 AF546), Alexa Fluor® 594 (sc-518004 AF594) or Alexa Fluor® 647 (sc-518004 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518004 AF680) or Alexa Fluor® 790 (sc-518004 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Raptor (A-2) is recommended for detection of Raptor isoforms 1, 2 and 3 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.

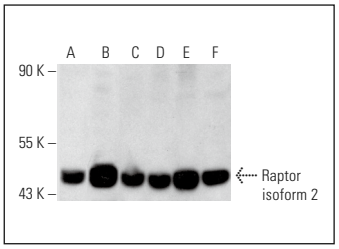
Molecular Weight of Raptor isoforms 1-3: 149/43/132 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, P19 cell lysate: sc-24760 or C6 whole cell lysate: sc-364373.

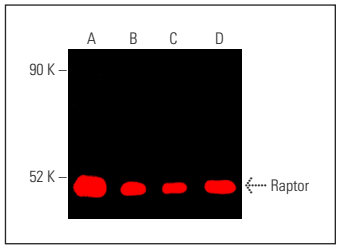
RECOMMENDED SUPPORT REAGENTS

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 (A-2): sc-518004. Western blot analysis of Raptor expression in U-251-MG (**A**), PANC-1 (**B**), NIH/3T3 (**C**), C2C12 (**D**), P19 (**E**) and C6 (**F**) whole cell lysates.



Raptor (A-2): sc-518004. Near-Infrared western blot analysis of Raptor expression in PANC-1 (**A**), NIH/3T3 (**B**), C2C12 (**C**) and P19 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 790: sc-533666.

SELECT PRODUCT CITATIONS

1. Pandey, S., et al. 2022. High glucose-induced cardiomyocyte damage involves interplay between endothelin ET-1/ETA/ETB receptor and mTOR pathway. Int. J. Mol. Sci. 23: 13816.

RESEARCH USE

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