SANTA CRUZ BIOTECHNOLOGY, INC.

# Raptor (10E10): sc-81537

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.


## CHROMOSOMAL LOCATION

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

## SOURCE

Raptor (10E10) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to partial Raptor of human origin.

## PRODUCT

Each vial contains 50 µg $IgG_1$ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

## APPLICATIONS

Raptor (10E10) is recommended for detection of Raptor of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Raptor (10E10) is also recommended for detection of Raptor in additional species, including canine.

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.

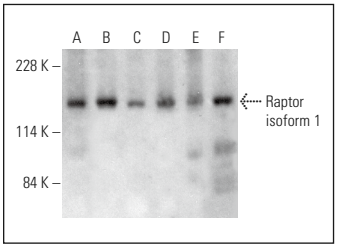
Molecular Weight of Raptor isoforms 1/2/3: 149/43/132 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176, PANC-1 whole cell lysate: sc-364380 or A-431 whole cell lysate: sc-2201.

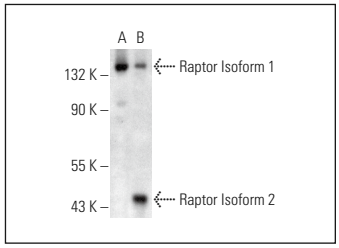
## STORAGE

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

## DATA




Raptor (10E10): sc-81537. Western blot analysis of Raptor expression in U-251-MG (**A**), PANC-1 (**B**), A-431 (**C**), MCF7 (**D**), NIH/3T3 (**E**) and C6 (**F**) whole cell lysates.




Raptor (10E10): sc-81537. Western blot analysis of Raptor expression in non-transfected: sc-117752 (**A**) and human Raptor transfected: sc-372841 (**B**) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Chin, T.Y., et al. 2010. Inhibition of the mammalian target of rapamycin promotes cyclic AMP-induced differentiation of NG108-15 cells. Autophagy 6: 1139-1156.
2. Sanchez, A.M., et al. 2012. AMPK promotes skeletal muscle autophagy through activation of forkhead FoxO3α and interaction with Ulk1. J. Cell. Biochem. 113: 695-710.
3. Misra, U.K. and Pizzo, S.V. 2013. Evidence for a pro-proliferative feedback loop in prostate cancer: the role of Epac1 and COX-2-dependent pathways. PLoS ONE 8: e63150.
4. Basu, S., et al. 2014. Suppression of MAPK/JNK-MTORC1 signaling leads to premature loss of organelles and nuclei by autophagy during terminal differentiation of lens fiber cells. Autophagy 10: 1193-1211.
5. Kocher, B.A., et al. 2015. DAPK3 suppresses acini morphogenesis and is required for mouse development. Mol. Cancer Res. 13: 358-367.
6. Li, Y., et al. 2016. Protein-restricted diet regulates lipid and energy metabolism in skeletal muscle of growing pigs. J. Agric. Food Chem. 64: 9412-9420.
7. Mateo, F., et al. 2017. Stem cell-like transcriptional reprogramming mediates metastatic resistance to mTOR inhibition. Oncogene 36: 2737-2749.
8. Clement, E., et al. 2018. Skp2-dependent reactivation of AKT drives resistance to PI3K inhibitors. Sci. Signal. 11: eaao3810.
9. Petiti, J., et al. 2019. Curcumin induces apoptosis in JAK2-mutated cells by the inhibition of JAK2/STAT and mTORC1 pathways. J. Cell. Mol. Med. 23: 4349-4357.
10. Villari, G., et al. 2020. Distinct retrograde microtubule motor sets drive early and late endosome transport. EMBO J. 39: e103661.


## RESEARCH USE

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