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RICTOR Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21379c

Product Information

Application	WB, E
Primary Accession	Q6R327
Reactivity	Human, Mouse
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB52841
Calculated MW	192218

Additional Information

Gene ID	253260
Other Names	Rapamycin-insensitive companion of mTOR, AVO3 homolog, hAVO3, RICTOR {ECO:0000312|EMBL:EAW559801}
Target/Specificity	This RICTOR antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 1068-1102 amino acids from the Central region of human RICTOR.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	RICTOR Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RICTOR {ECO:0000303|PubMed:15268862, ECO:0000312|HGNC:HGNC:28611}
Function	Component of the mechanistic target of rapamycin complex 2 (mTORC2), which transduces signals from growth factors to pathways involved in proliferation, cytoskeletal organization, lipogenesis and anabolic output (PubMed:15268862, PubMed:15718470, PubMed:19720745,

PubMed:19995915, PubMed:21343617, PubMed:33158864, PubMed:35904232, PubMed:35926713). In response to growth factors, mTORC2 phosphorylates and activates AGC protein kinase family members, including AKT (AKT1, AKT2 and AKT3), PKC (PRKCA, PRKCB and PRKCE) and SGK1 (PubMed:19720745, PubMed:19935711, PubMed:19995915). In contrast to mTORC1, mTORC2 is nutrient-insensitive (PubMed:15467718, PubMed:21343617). Within the mTORC2 complex, RICTOR probably acts as a molecular adapter (PubMed:21343617, PubMed:33158864, PubMed:35926713). RICTOR is responsible for the FKBP12-rapamycin-insensitivity of mTORC2 (PubMed:33158864). mTORC2 plays a critical role in AKT1 activation by mediating phosphorylation of different sites depending on the context, such as 'Thr-450', 'Ser-473', 'Ser-477' or 'Thr-479', facilitating the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDPK1/PDK1 which is a prerequisite for full activation (PubMed:15718470, PubMed:19720745, PubMed:19935711, PubMed:35926713). mTORC2 catalyzes the phosphorylation of SGK1 at 'Ser-422' and of PRKCA on 'Ser-657' (By similarity). The mTORC2 complex also phosphorylates various proteins involved in insulin signaling, such as FBXW8 and IGF2BP1 (By similarity). mTORC2 acts upstream of Rho GTPases to regulate the actin cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors (PubMed:15467718). mTORC2 promotes the serum-induced formation of stress-fibers or F-actin (PubMed:15467718).

Cellular Location

Cell membrane. Endoplasmic reticulum membrane. Lysosome membrane. Note=The mTORC2 complex localizes to membranes: mTORC2 is active at the plasma membrane, endoplasmic reticulum membrane and lysosomes (PubMed:21867682). Iin lysosomal membrane, mTORC2 is sensitive to lysosomal positioning in the cell (PubMed:31130364).

Background

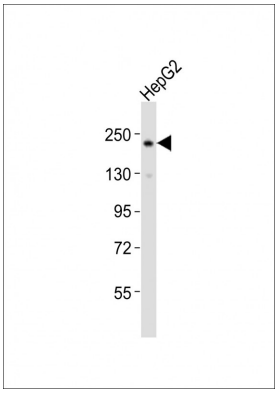
Subunit of mTORC2, which regulates cell growth and survival in response to hormonal signals. mTORC2 is activated by growth factors, but, in contrast to mTORC1, seems to be nutrient- insensitive. mTORC2 seems to function upstream of Rho GTPases to regulate the actin cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors. mTORC2 promotes the serum-induced formation of stress-fibers or F-actin. mTORC2 plays a critical role in AKT1 'Ser-473' phosphorylation, which may facilitate the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDK1 which is a prerequisite for full activation. mTORC2 regulates the phosphorylation of SGK1 at 'Ser-422'. mTORC2 also modulates the phosphorylation of PRKCA on 'Ser-657'. Plays an essential role in embryonic growth and development.

References

Sarbassov D.D.,et al.Curr. Biol. 14:1296-1302(2004).
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Schmutz J.,et al.Nature 431:268-274(2004).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Ohara O.,et al.DNA Res. 9:47-57(2002).

Images

Anti-RICTOR Antibody (Center)at 1:2000 dilution + HepG2 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 192 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



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