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RTP801 Antibody
Catalog # ASC10658

Specification

RTP801 Antibody - Product Information

Application	**WB**
Primary Accession	Q9NX09
Other Accession	NP_061931, 9506687
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**RTP801 antibody can be used for the detection of RTP801 by Western blot at 2 - 4 µg/mL.**

RTP801 Antibody - Additional Information

Gene ID	**54541**

Target/Specificity
DDIT4;

Reconstitution & Storage
RTP801 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
RTP801 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

RTP801 Antibody - Protein Information

Name DDIT4

Synonyms REDD1, RTP801

Function
Regulates cell growth, proliferation and survival via inhibition of the activity of the mammalian target of rapamycin complex 1 (mTORC1). Inhibition of mTORC1 is mediated by a pathway that involves DDIT4/REDD1, AKT1, the TSC1-TSC2 complex and the GTPase RHEB. Plays an important role in responses to cellular energy levels and cellular stress, including responses to hypoxia and DNA damage. Regulates p53/TP53-mediated apoptosis in response to DNA damage via its effect on mTORC1 activity. Its role in the response to hypoxia depends on the cell type; it mediates mTORC1 inhibition in fibroblasts and thymocytes, but not in hepatocytes (By similarity). Required for mTORC1-mediated defense against viral protein synthesis and virus replication (By similarity). Inhibits neuronal differentiation and neurite outgrowth mediated by NGF via its effect on mTORC1 activity. Required for normal neuron migration during embryonic brain development. Plays a role in neuronal cell death.

Cellular Location
Mitochondrion. Cytoplasm, cytosol

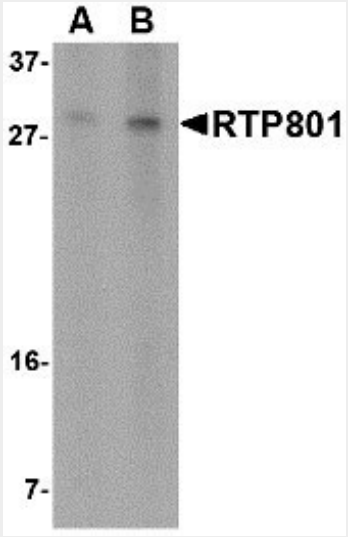
Tissue Location
Broadly expressed, with lowest levels in brain, skeletal muscle and intestine. Up-regulated in substantia nigra neurons from Parkinson disease patients (at protein level)

RTP801 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

RTP801 Antibody - Images



Western blot analysis of RTP801 in 293 cell lysate with RTP801 antibody at (A) 2 and (B) 4 µg/mL.

RTP801 Antibody - Background

RTP801 Antibody: RTP801 was initially identified as a gene induced by DNA damage, and later found to also be regulated by other cellular stresses such as hypoxia and glucocorticoid treatment. Recently, RTP801 has been shown to act as a mediator of tuberous sclerosis complex (TSC)-dependent regulation of the mammalian Target of Rapamycin (mTOR), an evolutionarily conserved serine/threonine kinase that regulates cell growth and cell cycle. In response to energy stress, RTP801 inhibits mTOR function, resulting in dephosphorylation of downstream targets such as ribosomal protein S6 kinase 1 and 4EBP1 and decreasing cell growth. Disregulation of RTP801 may thus contribute to human tumorigenesis.

RTP801 Antibody - References

Ellisen LW, Ramsayer KD, Johannessen CM, et al. REDD1, a developmentally regulated transcriptional target of p63 and p53, links p63 to regulation of reactive oxygen species. Mol. Cell2002; 10:995-1005.
Shoshani T, Faerman A, Mett I, et al. Identification of a novel hypoxia-inducible factor 1-responsive gene, RTP801, involved in apoptosis. Mol. Cell. Biol.2002; 22:2283-93.
Wang Z, Malone MH, Thomenius MJ, et al. Dexamethasone-induced gene 2 (dig2) is a novel pro-survival stress gene induced rapidly by diverse apoptotic signals. J. Biol. Chem.2003; 278:27053-8.
Sofer A, Lei K, Johannessen CM, et al. Regulation of mTOR and cell growth in response to energy stress by REDD1. Mol. Cell. Biol.2005; 25:5834-45.