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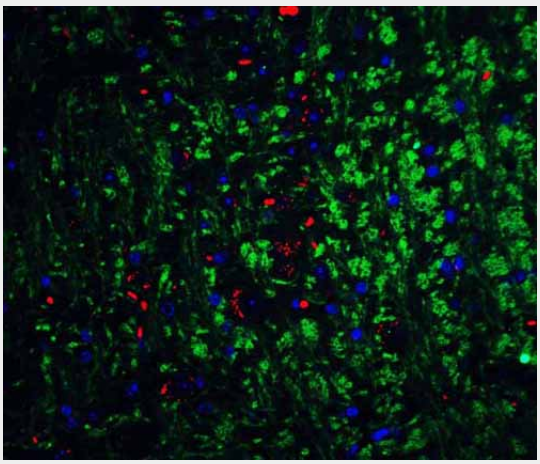
AKT1S1 Antibody
Catalog # ASC11670

Specification

AKT1S1 Antibody - Product Information

Application	**IF**
Primary Accession	Q96B36
Other Accession	NP_115751, 84335
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 30 kDa** **Observed: 28 kDa KDa**
Application Notes	**AKT1S1 antibody can be used for detection of AKT1S1 by Western blot at 1 - 2 µg/mL.**



Immunofluorescence of Neurturin in mouse brain tissue with Neurturin Antibodyat 20 µg/mL.

AKT1S1 Antibody - Additional Information

Gene ID **84335**

Target/Specificity
AKT1S1 antibody was raised against a 19 amino acid peptide near the carboxy terminus of human AKT1S1.

The immunogen is located within amino acids 190 - 240 of AKT1S1.

Reconstitution & Storage
AKT1S1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.

Precautions
AKT1S1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

AKT1S1 Antibody - Protein Information

Name AKT1S1 {ECO:0000312|EMBL:AAH16043.1}

AKT1S1 Antibody - Background

AKT1S1 Antibody: The Akt signaling pathway contributes to the regulation of apoptosis after a variety of cell death signals. AKT1S1, also known as PRAS40, is a proline-rich substrate of the kinase AKT1 and is thought to play a role in neuroprotection mediated by nerve growth factor (NGF) after transient focal cerebral ischemia (1). AKT1S1 is also a substrate and potential regulator of mammalian target of rapamycin (mTOR), a serine/threonine kinase that regulates cell growth and cell cycle, and a negative regulator of autophagy (2). Treatment with the insulin-like growth factor-1 (IGF1) can indusce the phosphorylation of AKT1S1 via the PI3K/AKT signaling pathway in PC12 cells (3).

AKT1S1 Antibody - References

Saito A, Narasimhan P, Hayashi T, et al. Neuroprotective role of a proline-rich Akt substrate in apoptotic neuronal cell death after stroke: relationships with nerve growth factor. J. Neurosci. 2004; 24:1584-93.
Wiza C, Nascimento EB, and Ouwens DM. Role of PRAS40 in Akt and mTOR signaling in health

Function
Subunit of mTORC1, which regulates cell growth and survival in response to nutrient and hormonal signals. mTORC1 is activated in response to growth factors or amino acids. Growth factor-stimulated mTORC1 activation involves a AKT1-mediated phosphorylation of TSC1- TSC2, which leads to the activation of the RHEB GTPase that potently activates the protein kinase activity of mTORC1. Amino acid-signaling to mTORC1 requires its relocalization to the lysosomes mediated by the Ragulator complex and the Rag GTPases. Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. mTORC1 phosphorylates EIF4EBP1 and releases it from inhibiting the elongation initiation factor 4E (eiF4E). mTORC1 phosphorylates and activates S6K1 at 'Thr-389', which then promotes protein synthesis by phosphorylating PDCD4 and targeting it for degradation. Within mTORC1, AKT1S1 negatively regulates mTOR activity in a manner that is dependent on its phosphorylation state and binding to 14-3-3 proteins. Inhibits RHEB-GTP-dependent mTORC1 activation. Substrate for AKT1 phosphorylation, but can also be activated by AKT1- independent mechanisms. May also play a role in nerve growth factor- mediated neuroprotection.

Cellular Location
Cytoplasm, cytosol. Note=Found in the cytosolic fraction of the brain.

Tissue Location
Widely expressed with highest levels of expression in liver and heart. Expressed at higher levels in cancer cell lines (e.g. A-549 and HeLa) than in normal cell lines (e.g. HEK293)

AKT1S1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

and disease. Am. J. Physiol. Endocrinol. Metab. 2012; 302:E1453-60.
Wang H, Zhang Q, Zhang L, et al. Insulin-like growth factor-1 induces the phosphrylation of PRAS40 via the PI3K/Akt signaling pathway in PC12 cells. Neurosci. Lett. 516:105-9.

- Immunoprecipitation
- Flow Cytomety
- Cell Culture