

**AKT1S1 Antibody**  
**Catalog # ASC11670****Specification****AKT1S1 Antibody - Product Information**

Application	IF
Primary Accession	<a href="#">Q96B36</a>
Other Accession	<a href="#">NP_115751</a> , <a href="#">84335</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 30 kDa
Application Notes	Observed: 28 kDa KDa AKT1S1 antibody can be used for detection of AKT1S1 by Western blot at 1 - 2 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°C for three months and -20°C, 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}**Function**

Negative regulator of the mechanistic target of rapamycin complex 1 (mTORC1), an evolutionarily conserved central nutrient sensor that stimulates anabolic reactions and macromolecule biosynthesis to promote cellular biomass generation and growth (PubMed: [17510057](http://www.uniprot.org/citations/17510057), PubMed: [17386266](http://www.uniprot.org/citations/17386266), PubMed: [17277771](http://www.uniprot.org/citations/17277771), PubMed: [29236692](http://www.uniprot.org/citations/29236692)). In absence of insulin and nutrients, AKT1S1 associates with the mTORC1 complex and directly inhibits mTORC1 activity by blocking the MTOR substrate- recruitment site (PubMed: [29236692](http://www.uniprot.org/citations/29236692)). In response to insulin and nutrients, AKT1S1 dissociates from mTORC1 (PubMed: [17386266](http://www.uniprot.org/citations/17386266), PubMed: [17386266](http://www.uniprot.org/citations/17386266)).

[18372248](http://www.uniprot.org/citations/18372248)). Its activity is dependent on its phosphorylation state and binding to 14-3-3 (PubMed:[16174443](http://www.uniprot.org/citations/16174443), PubMed:[18372248](http://www.uniprot.org/citations/18372248)). May also play a role in nerve growth factor-mediated neuroprotection (By similarity).

#### Cellular Location

Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9D1F4}. Note=Found in the cytosolic fraction of the brain. {ECO:0000250|UniProtKB:Q9D1F4}

#### Tissue Location

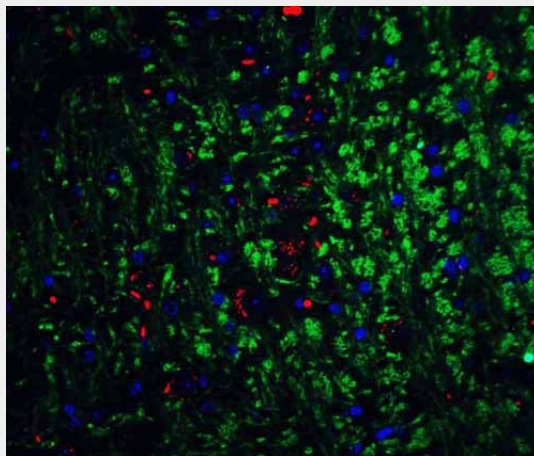
Widely expressed with highest levels of expression in liver and heart. Expressed at higher levels in cancer cell lines (e.g. A-549 and HeLa) than in normal cell lines (e.g. HEK293)

### AKT1S1 Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### AKT1S1 Antibody - Images



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

### 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 induce 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 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 phosphorylation of PRAS40 via the PI3K/Akt signaling pathway in PC12 cells. Neurosci. Lett. 516:105-9.