

## Phospho-AKT1 (Ser473) Antibody

Cat. No.:	HY-P80788
Synonyms:	Phospho-AKT1 (Ser473) Antibody is a non-conjugated and Rabbit originated monoclonal antibody about 56 kDa, targeting to Phospho-AKT (Ser473). It can be used for WB assays with tag free, in the background of Human, Mouse, Rat.
Host:	Rabbit
Reactivity:	Human, Mouse, Rat
Conjugation:	Non-conjugated
SwissProt ID:	P31749
Research Field:	Neuroscience
Molecular Weight:	Predicted band size: 56 kDa

### PROPERTIES

Formulation	Supplied in 50 mM Tris-Glycine (pH 7.4), 0.15 M NaCl, 40% Glycerol and 0.05% BSA. Preservative: 0.01% Sodium azide				
Purity	affinity purified				
Storage & Stability	Stored at -20°C for 1 year. Avoid repeated freeze / thaw cycles.				
Appearance	Liquid				
Application & Dilution Ratio	<table> <thead> <tr> <th>Application</th> <th>Dilution Ratio</th> </tr> </thead> <tbody> <tr> <td>WB</td> <td>1:500-1:1,000</td> </tr> </tbody> </table>	Application	Dilution Ratio	WB	1:500-1:1,000
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WB	1:500-1:1,000				
Shipping	Shipping with blue ice.				

### DESCRIPTION

Background	<p>AKT: This gene encodes one of the three members of the human AKT serine-threonine protein kinase family which are often referred to as protein kinase B alpha, beta, and gamma. These highly similar AKT proteins all have an N-terminal pleckstrin homology domain, a serine/threonine-specific kinase domain and a C-terminal regulatory domain. These proteins are phosphorylated by phosphoinositide 3-kinase (PI3K). AKT/PI3K forms a key component of many signalling pathways that involve the binding of membrane-bound ligands such as receptor tyrosine kinases, G-protein coupled receptors, and integrin-linked kinase. These AKT proteins therefore regulate a wide variety of cellular functions including cell proliferation, survival, metabolism, and angiogenesis in both normal and malignant cells. AKT proteins are recruited to the cell membrane by phosphatidylinositol 3,4,5-trisphosphate (PIP3) after phosphorylation of phosphatidylinositol 4,5-bisphosphate (PIP2) by PI3K. Subsequent phosphorylation of both threonine residue 308 and serine residue 473 is required for full activation of the AKT1 protein encoded by this gene. Phosphorylation of additional residues also occurs, for example, in response to insulin growth factor-1 and epidermal growth factor. Protein phosphatases act as negative regulators of AKT proteins by dephosphorylating AKT or PIP3. The PI3K/AKT signalling pathway is crucial for tumor cell survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating AKT1 which then phosphorylates and inactivates components of the apoptotic machinery. AKT proteins also participate in the mammalian target of rapamycin (mTOR)</p>
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signalling pathway which controls the assembly of the eukaryotic translation initiation factor 4F (eIF4E) complex and this pathway, in addition to responding to extracellular signals from growth factors and cytokines, is dysregulated in many cancers. Mutations in this gene are associated with multiple types of cancer and excessive tissue growth including Proteus syndrome and Cowden syndrome 6, and breast, colorectal, and ovarian cancers. Multiple alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jul 2020]

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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