

Rabbit Anti-Human AKT Polyclonal Antibody

Cat. No. CPBTT-30930RH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Rabbit Polyclonal antibody to Human Akt.
Species	Human
Source	Rabbit
Antigen Description	Akt (protein kinase B, PKB) is a serine/threonine protein kinase. Akt is activated by PI3 kinase, which is itself activated by tyrosine kinase (Thr308, Ser473). Akt/PKB controls vital cellular functions such as cell survival/apoptosis, cell cycle progression and glucose metabolism. It also acts down-stream from growth factors and hormones. Akt/PKB can inhibit cell cycle arrest by phosphorylating p21. Also, Akt/PKB may potentiate cell cycle progression through increased translation of cyclin D. Akt/PKB directly affects the apoptosis pathway by, for example, targeting the pro-apoptotic Bcl-2 related protein, BAD. It also can phosphorylate three kinases upstream of SAPK. The SAPK system consists of two groups of kinases, and JNK and p38 MAP kinase pathways. The SAPK pathway is an important target for Akt/PKB regulation to promote cell survival. Akt/PKB is able to regulate cell survival through transcriptional factors (Forkhead, nuclear factor-κB (NF-κB), Murine double minute 2 (Mdm2)) that are responsible for pro- as well as anti-apoptotic genes. One of the first physiological targets of PKB to be identified was glycogen synthase kinase-3 (GSK3), which has been associated with the control of many cellular processes, including glycogen and protein synthesis, and the modulation of transcription factor activity. The involvement of Akt in disease processes like malignancy, neurodegeneration and abnormal glucose metabolism has also been demonstrated.

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Isotype	IgG
Immunogen	A synthetic non-phosphopeptide derived from human Akt around the phosphorylation site of threonine 308 (M-K-T ^P -F-C).
Formulation	Liquid
Specificity	Human, Mouse, Rat
PurityDetail	Epitope affinity purified
Applications	IHC (dilution: 1:50-1:100); WB (dilution: 1:500-1:1000), Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own experiment using appropriate negative and positive controls.
Storagebuffer	Preservative: 0.02% Sodium Azide, Constituents: phosphate buffered saline (without Mg ²⁺ and Ca ²⁺), pH 7.4, 150 mMNaCl and 50% glycerol.
Storage	Store at -20° C, avoid Freeze/Thaw Cycles.
Officialsymbol	AKT1
nullValue_other	Function ATP binding; enzyme binding; identical protein binding; kinase activity; nitric-oxide synthase regulator activity; phosphatidylinositol-3,4,5-trisphosphate binding; phosphatidylinositol-3,4-bisphosphate binding; protein binding; protein kinase activity; protein serine/threonine kinase activity

GENE INFORMATION

Gene Name **AKT1 v-akt murine thymoma viral oncogene homolog 1 [Homo sapiens]**

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Synonyms	AKT1; v-akt murine thymoma viral oncogene homolog 1; AKT; PKB; RAC; PRKBA; PKB-ALPHA; RAC-ALPHA; RAC-alpha serine/threonine-protein kinase; PKB alpha; RAC-PK-alpha; proto-oncogene c-Akt; protein kinase B alpha; rac protein kinase alpha
Gene ID	207
mRNA Refseq	NM_001014431
Protein Refseq	NP_001014431
MIM	164730
UniProt ID	P31749
Pathway	AKT phosphorylates targets in the cytosol; AKT phosphorylates targets in the nucleus; AKT-mediated inactivation of FOXO1A; Activation of BAD and translocation to mitochondria; Activation of BH3-only proteins; Acute myeloid leukemia; Adaptive Immune System; Adipocytokine signaling pathway; Alpha6-Beta4 Integrin Signaling Pathway; Androgen Receptor Signaling Pathway; Angiopoietin receptor Tie2-mediated signaling