pan-AKT Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	pan-AKT, Polyclonal Antibody
Full Product Name	pan-AKT Conjugated Antibody
Product Gene Name	anti-pan-AKT antibody
Product Synonym Names	PKB; RAC; PRKBA; PKB-ALPHA; RAC-ALPHA
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	0.01M Sodium Phosphate, 0.25M NaCl, pH 7.6, 5mg/ml Bovine Serum Albumin, 0.02% Sodium Azide
Specificity	The antibody detects endogenous level of total pan-AKT antibody.
Preparation and Storage	Store at 4 degree C for 6 months.
Molecular Weight	55,686 Da
Chromosome Location	Chromosome: 14; NC_000014.8 (105235686..105262080, complement). Location: 14q32.32
OMIM	114480
3D Structure	ModBase 3D Structure for P31749
Immunogen	A synthetic peptide of human pan-AKT.
Conjugation	Biotin AF350 AF405 AF488 AF555 AF594 AF647 AF680 AF750
Excitation Emission	AF350: 346nm/442nm
Applications Tested/Suitable for anti-pan-AKT antibody	Most Applications
Application Notes for anti-pan-AKT antibody	Suggested Dilution: AF350 conjugated: most applications: 1:50-1:250 AF405 conjugated: most applications: 1:50-1:250 AF488 conjugated: most applications: 1:50-1:250 AF555 conjugated: most applications: 1:50-1:250 AF594 conjugated: most applications: 1:50-1:250 AF647 conjugated: most applications: 1:50-1:250 AF680 conjugated: most applications: 1:50-1:250 AF750 conjugated: most applications: 1:50-1:250 Biotin conjugated: working with enzyme-conjugated streptavidin, most applications: 1:50-1:1000
Related Product Information for anti-pan-AKT antibody	The serine-threonine protein kinase encoded by the AKT1 gene is catalytically inactive in serum-starved primary and immortalized fibroblasts. AKT1 and the related AKT2 are activated by platelet-derived growth factor. The activation is rapid and specific, and it is abrogated by mutations in the pleckstrin homology domain of AKT1. It was shown that the activation occurs through phosphatidylinositol 3-kinase. In the developing nervous system AKT is a critical mediator of growth factor-induced neuronal survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating the serine/threonine kinase AKT1, which then phosphorylates and inactivates components of the apoptotic machinery. Mutations in this gene have been associated with the Proteus syndrome. Multiple alternatively spliced transcript variants have been found for this gene.

Other Notes	Small volumes of anti-pan-AKT antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for pan-AKT purchase	MBS9448783 is an antibody targeting pan-AKT. Also known as pan-AKT Conjugated Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for pan-AKT. It may not necessarily be applicable to this product.

NCBI GI #	62241013
NCBI GeneID	207
NCBI Accession #	NP_001014431.1
UniProt Primary Accession #	P31749
UniProt Secondary Accession #	Q9BWB6; B2RAM5
UniProt Related Accession #	P31749
GenBank Nucleotide #	NM_001014431.1
NCBI Official Full Name	RAC-alpha serine/threonine-protein kinase
NCBI Official Synonym Full Names	v-akt murine thymoma viral oncogene homolog 1
NCBI Official Symbol	AKT1
NCBI Official Synonym Symbols	AKT; PKB; RAC; CWS6; PRKBA; PKB-ALPHA; RAC-ALPHA
UniProt Protein Name	RAC-alpha serine/threonine-protein kinase
UniProt Synonym Protein Names	Protein kinase B; PKB; Protein kinase B alpha; PKB alpha; Proto-oncogene c-Akt; RAC-PK-alpha
UniProt Gene Name	AKT1
UniProt Synonym Gene Names	PKB; RAC; PKB; PKB alpha
UniProt Entry Name	AKT1_HUMAN
NCBI Protein Information	RAC-alpha serine/threonine-protein kinase; PKB alpha; RAC-PK-alpha; proto-oncogene c-Akt; protein kinase B alpha; rac protein kinase alpha

UniProt Comments for pan-AKT	Akt1: an oncogenic AGC kinase that plays a critical role in regulating cell survival and metabolism in many different signaling pathways. Dual phosphorylation is required for its activation. T308 is phosphorylated by PDK1 in the PI3 kinase pathway, and S473 is phosphorylated by mTOR in the mTORC2 pathway. The 'Lys-63'-linked ubiquitination of AKT1 by TRAF6 is important for its translocation to the plasma membrane, phosphorylation, and activation. When Akt is fully phosphorylated it translocates into the nucleus, undergoes 'Lys-48'-polyubiquitination catalyzed by TTC3, leading to its proteosomal degradation. Hyperactive or overexpressed in a number of cancers including breast, prostate, lung, pancreatic, liver, ovarian and colorectal. Over 160 protein substrates are known including many that regulate transcription, metabolism, apoptosis, cell cycle, and growth. Protein type: EC 2.7.11.1; Protein kinase, Ser/Thr (non-receptor); Protein kinase, AGC; Oncoprotein; Kinase, protein; AGC group; AKT family Chromosomal Location of Human Ortholog: 14q32.32 Cellular Component: nucleoplasm; microtubule cytoskeleton; mitochondrion; cytoplasm; plasma membrane; spindle; intercellular junction; nucleus; cytosol Molecular Function: identical protein binding; protein serine/threonine kinase activity; protein binding; phosphatidylinositol-3,4,5-triphosphate binding; enzyme binding; protein kinase C binding; nitric-oxide synthase regulator activity; protein serine/threonine/tyrosine kinase activity; kinase activity; phosphatidylinositol-3,4-bisphosphate binding; ATP binding; protein kinase activity Biological Process: negative regulation of JNK cascade; positive regulation of nitric oxide biosynthetic process; regulation of myelination; nerve growth factor receptor signaling pathway; protein ubiquitination; glucose homeostasis; regulation of cell migration; protein amino acid phosphorylation; G1/S-specific positive regulation of cyclin-dependent protein kinase activity; germ cell development; positive regulation of glucose import; cell projection organization and biogenesis; protein catabolic process; maternal placenta development; response to food; platelet activation; glycogen biosynthetic process; fibroblast growth factor receptor signaling pathway; positive regulation of nitric-oxide synthase activity; positive regulation of blood vessel endothelial cell migration; glucose metabolic process; positive regulation of lipid biosynthetic process; positive regulation of cell growth; insulin-like growth factor receptor signaling pathway; cellular response to insulin stimulus; response to heat; T cell costimulation; positive regulation of fat cell differentiation; negative regulation of protein kinase activity; striated muscle cell differentiation; positive regulation of transcription from RNA polymerase II promoter; positive regulation of endothelial cell proliferation; positive regulation of transcription factor activity; response to oxidative stress; regulation of nitric-oxide synthase activity; negative regulation of apoptosis; negative regulation of autophagy; negative regulation of fatty acid beta-oxidation; translation; apoptosis; protein amino acid autophosphorylation; regulation of glycogen biosynthetic process; positive regulation of cellular protein metabolic process; positive regulation of glycogen biosynthetic process; negative regulation of cell size; negative regulation of caspase activity; glucose transport; signal transduction; nitric oxide metabolic process; regulation of translation; apoptotic mitochondrial changes; protein kinase B signaling cascade; inflammatory response; nitric oxide biosynthetic process; cell differentiation; activated T cell apoptosis; aging; negative regulation of proteolysis; epidermal growth factor receptor signaling pathway; phosphoinositide-mediated signaling; myelin maintenance in the peripheral nervous system; protein modification process; endocrine pancreas development; positive regulation of peptidyl-serine phosphorylation; osteoblast differentiation; cell proliferation; G-protein coupled receptor protein signaling pathway; peptidyl-serine phosphorylation; protein import into nucleus, translocation; positive regulation of proteasomal ubiquitin-dependent protein catabolic process; insulin receptor signaling pathway; positive regulation of vasoconstriction; innate immune response; gene expression; positive regulation of protein amino acid phosphorylation; blood coagulation; vascular endothelial growth factor receptor signaling pathway; phosphorylation; hyaluronan metabolic process Disease: Schizophrenia; Cowden Syndrome 6; Proteus Syndrome; Breast Cancer; Ovarian Cancer
Research Articles on pan-AKT	**1.** Inhibition of AKT activity by MK-2206 blocks GRP78 expression in endometrial cancer (EC) cells. SiRNA studies also revealed that knockdown of GRP78 reduces but does not abrogate AKT activity, demonstrating that GRP78 is required for optimal AKT activity.
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