SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

[Primary Antibody]

Recombinant Rabbit Anti-AKT1 Monoclonal Antibody

Catalog Number: SLA3103M

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Monoclonal
Clone No.:	4C4
GeneID:	207
SWISS:	P31749
Target:	AKT1
Immunogen:	A synthesized peptide derived from human AKT1
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20℃ for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB (1:1000-5000) IHC-P (1:100-500) IHC-F (1:100-500) IF (1:100-500) Flow-Cyt (1:50-100) Not yet tested in other applications. Optimal working dilutions must be determined by the end user.
Reactivity:	Human,Mouse,Rat
Predicted MW.:	56 kDa
Subcellular Location:	Nucleus
Background:	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

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	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) 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 disregulated 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]

[VALIDATION IMAGES]

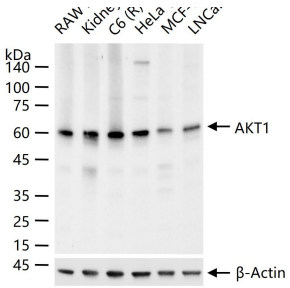


Figure 1. 25 ug total protein per lane of various lysates (see on figure) probed with AKT1 monoclonal antibody, unconjugated (SLA3103M) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min

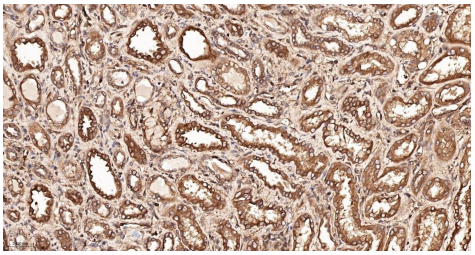


Figure 2. Paraformaldehyde-fixed, paraffin embedded Human Kidney; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

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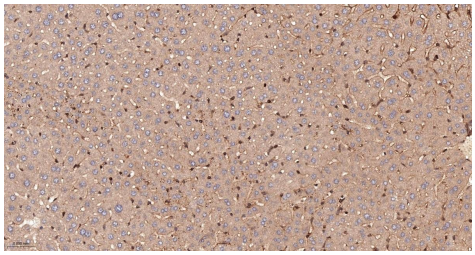


Figure 3. Paraformaldehyde-fixed, paraffin embedded Mouse Liver; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT1 Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

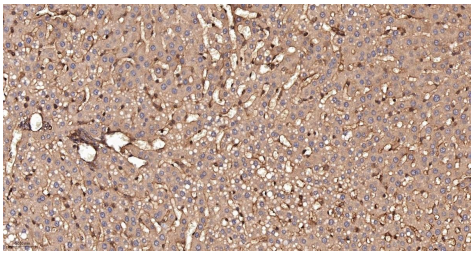


Figure 4. Paraformaldehyde-fixed, paraffin embedded Rat Liver; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT1 Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

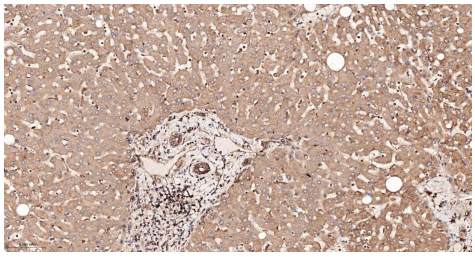


Figure 5. Paraformaldehyde-fixed, paraffin embedded Human Liver; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT1 Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

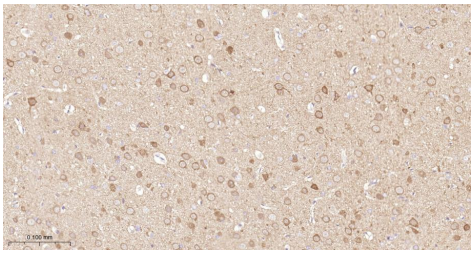


Figure 6. Paraformaldehyde-fixed, paraffin embedded Mouse Cerebrum; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

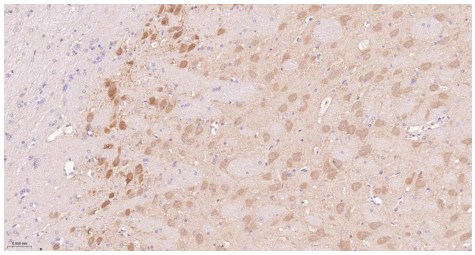


Figure 7. Paraformaldehyde-fixed, paraffin embedded Rat Cerebrum; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

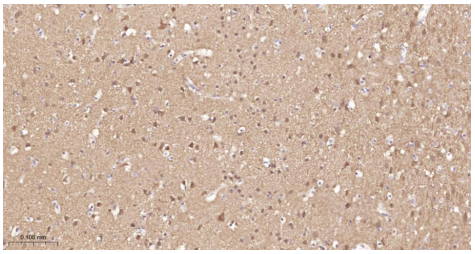


Figure 8. Paraformaldehyde-fixed, paraffin embedded Human Cerebrum; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

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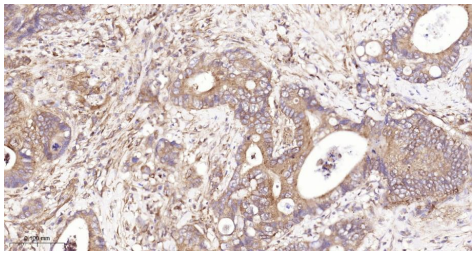


Figure 9. Paraformaldehyde-fixed, paraffin embedded Human Colon Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

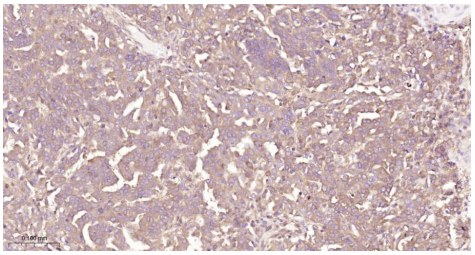


Figure 10. Paraformaldehyde-fixed, paraffin embedded Human Ovarian Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

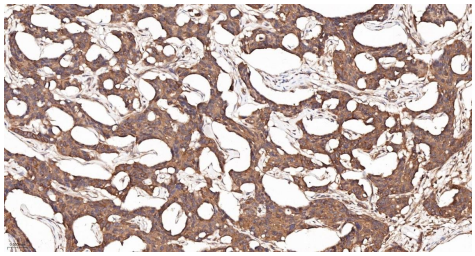


Figure 11. Paraformaldehyde-fixed, paraffin embedded Human Breast Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT Monoclonal Antibody, Unconjugated (SLA3103M) at 1:200 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

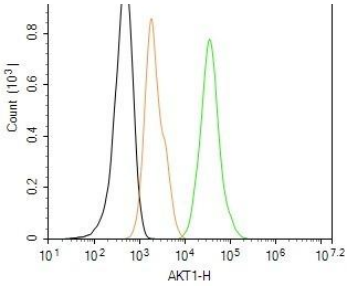


Figure 12. The HeLa (H) cells were fixed with 4% PFA (10 min at r.t.) and then permeabilized with 90% ice-cold methanol for 20 min at -20°C,the cells then were incubated in 5%BSA to block non-specific protein-protein interactions (30 min at r.t.).Primary Antibody (green):Rabbit Anti-AKT antibody (SLA3103M,1:100); Isotype Control (orange): Rabbit IgG (SL0295P). Blank control (black): PBS. Acquisition of 20,000 events was performed
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