

Pan-Akt Rabbit mAb

Catalog No.: A29131 **Recombinant**

Basic Information

Observed MW

60 kDa

Calculated MW

48-56kDa

Category

Primary antibody

Applications

WB, IP, IF/ICC, IHC-P, ELISA

Cross-Reactivity

Human, Mouse, Rat

CloneNo number

ARC3906

Recommended Dilutions

WB 1:8000 - 1:30000

IP 0.5 µg - 4 µg antibody for
200 µg - 400µg extracts of
whole cells

IF/ICC 1:200 - 1:800

IHC-P 1:2500 - 1:10000

ELISA Recommended starting
concentration is 1 µg/mL.
Please optimize the
concentration based on your
specific assay requirements.
For high-ratio antibody
dilutions ($\geq 1:10000$) a
sequential dilution method
is strongly recommended to
ensure measurement
accuracy.

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 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 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.

Immunogen Information

Gene ID

207/208/10000

Swiss Prot

P31751/P31749/Q9Y243

Immunogen

This information is considered to be commercially sensitive.

Synonyms

AKT; PKB; RAC; PRKBA; PKB-ALPHA; RAC-ALPHA; T1;PKBB; PRKBB; HIHGHH; PKBBETA; RAC-BETA;MPPH; PKBG; MPPH2; PRKBG; STK-2; PKB-GAMMA; RAC-gamma; RAC-PK-gamma;pan-AKT

Product Information

Source

Rabbit

Isotype

IgG

Purification

Affinity purification

Storage

Contact

☎ | 400-999-6126

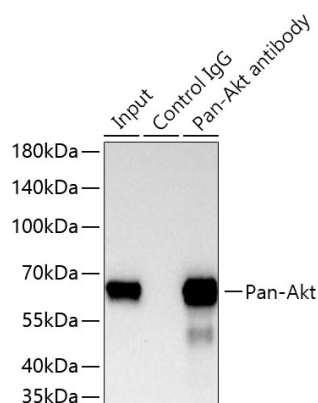
✉ | cn.market@abclonal.com.cn

🌐 | www.abclonal.com.cn

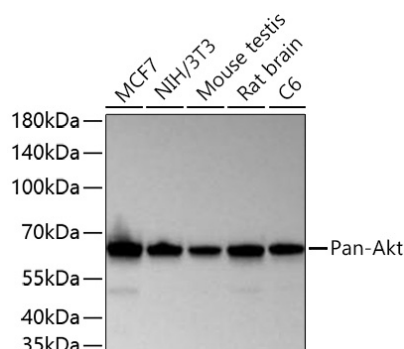
Store at -20°C. Avoid freeze / thaw cycles.

Buffer: PBS with 0.09% Sodium azide,0.05% BSA,50% glycerol,pH7.3.

Validation Data



Immunoprecipitation of Pan-Akt from 300 µg extracts of MCF7 cells was performed using 0.5 µg of Pan-Akt Rabbit mAb (A29131). Rabbit Control IgG (AC005) was used to precipitate the Control IgG sample. IP samples were eluted with 1x Laemmli Buffer. The Input lane represents 10% of the total input. Western blot analysis of immunoprecipitates was conducted using Pan-Akt Rabbit mAb (A29131) at a dilution of 1:2000.



Western blot analysis of various lysates using Pan-Akt Rabbit mAb (A29131) at 1:14000 dilution incubated overnight at 4°C.

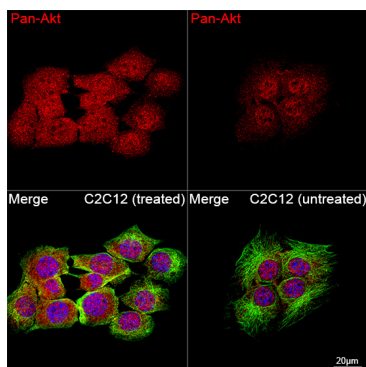
Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution.

Lysates/proteins: 25 µg per lane.

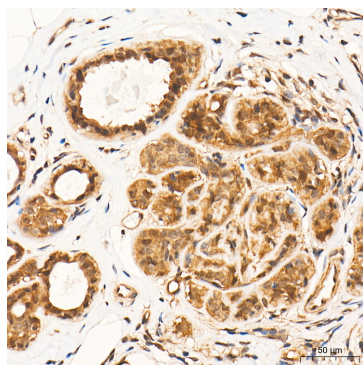
Blocking buffer: 3% nonfat dry milk in TBST.

Detection: ECL Basic Kit (RM00020).

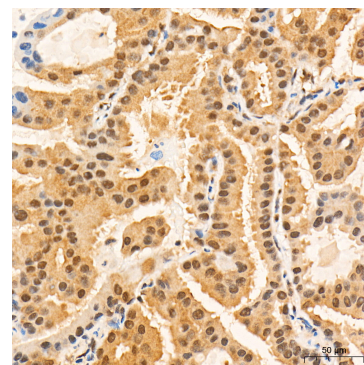
Exposure time: 5 s.



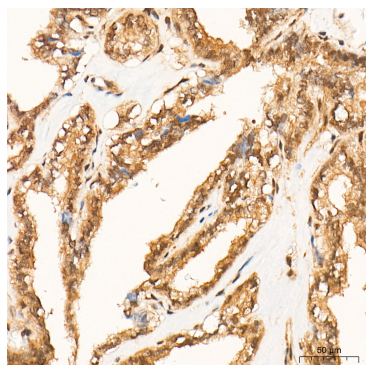
Confocal imaging of C2C12 cells (treated with LY294002) and C2C12 cells (untreated) using Pan-Akt Rabbit mAb (A29131, dilution 1:200) followed by a further incubation with Cy3-conjugated Goat anti-Rabbit IgG (H+L) (AS007, dilution 1:500) (Red). The cells were counterstained with α-Tubulin Mouse mAb (AC012, dilution 1:400) followed by incubation with ABflo® 488-conjugated Goat Anti-Mouse IgG (H+L) Ab (AS076, dilution 1:500) (Green). DAPI was used for nuclear staining (Blue). Objective: 100x.



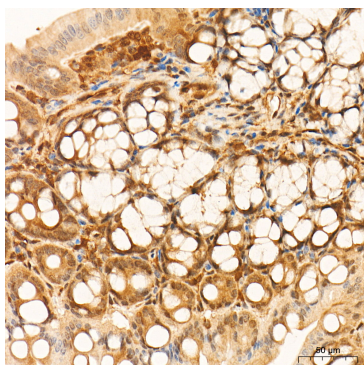
Immunohistochemistry analysis of paraffin-embedded Human breast cancer tissue using Pan-Akt Rabbit mAb (A29131) at a dilution of 1:3000 (40x lens). High pressure antigen retrieval performed with 0.01M Tris-EDTA Buffer (pH 9.0) prior to IHC staining.



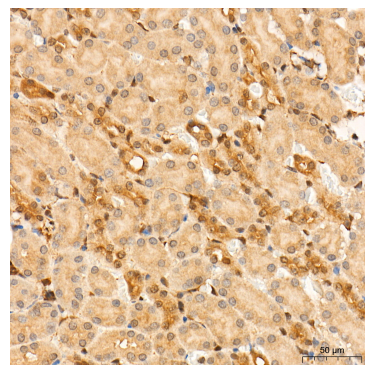
Immunohistochemistry analysis of paraffin-embedded Human lung cancer tissue using Pan-Akt Rabbit mAb (A29131) at a dilution of 1:3000 (40x lens). High pressure antigen retrieval performed with 0.01M Tris-EDTA Buffer (pH 9.0) prior to IHC staining.



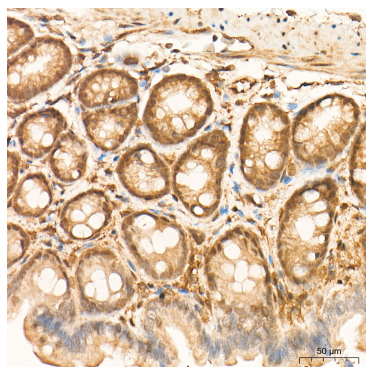
Immunohistochemistry analysis of paraffin-embedded Human thyroid cancer tissue using Pan-Akt Rabbit mAb (A29131) at a dilution of 1:3000 (40x lens). High pressure antigen retrieval performed with 0.01M Tris-EDTA Buffer (pH 9.0) prior to IHC staining.



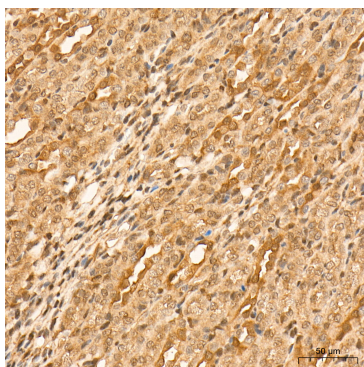
Immunohistochemistry analysis of paraffin-embedded Mouse colon tissue using Pan-Akt Rabbit mAb (A29131) at a dilution of 1:3000 (40x lens). High pressure antigen retrieval performed with 0.01M Tris-EDTA Buffer (pH 9.0) prior to IHC staining.



Immunohistochemistry analysis of paraffin-embedded Mouse kidney tissue using Pan-Akt Rabbit mAb (A29131) at a dilution of 1:3000 (40x lens). High pressure antigen retrieval performed with 0.01M Tris-EDTA Buffer (pH 9.0) prior to IHC staining.



Immunohistochemistry analysis of paraffin-embedded Rat colon tissue using Pan-Akt Rabbit mAb (A29131) at a dilution of 1:3000 (40x lens). High pressure antigen retrieval performed with 0.01M Tris-EDTA Buffer (pH 9.0) prior to IHC staining.



Immunohistochemistry analysis of paraffin-embedded Rat kidney tissue using Pan-Akt Rabbit mAb (A29131) at a dilution of 1:3000 (40x lens). High pressure antigen retrieval performed with 0.01M Tris-EDTA Buffer (pH 9.0) prior to IHC staining.