Data Sheet (Cat.No.TMAH-00978)

Anti-PIK3CA Antibody (9D297)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human, Mouse
Conjugation:	Unconjugated
Clone:	9D297
Purification:	Affinity-chromatography

Applications

Verified Activity:	1. Western Blot -Positive WB detected in: Jurkat whole cell lysate, HepG2 whole cell lysate, Hela whole cell lysate, NIH/3T3 whole cell lysate, K562 whole cell lysate, 293 whole cell lysate, MCF-7 whole cell lysate -All lanes: PIK3CA antibody at 1:1500 -Secondary: Goat polyclonal to rabbit IgG at 1/50000 dilution -Predicted band size: 125 kDa -Observed band size: 110 kDa 2. Immunofluorescence staining of Hela Cells with TMAH-00978 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).
Application:	ELISA,IF,WB
Recommended	WB:1:500-1:5000; IF:1:20-1:200.

Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthetic peptide: Human PI 3 Kinase catalytic subunit alpha
Antigen Species:	Human
Gene ID:	5290
Uniprot ID:	P42336
Biology Area:	Cancer, Immunology, Signal transduction

Research Background

Phosphoinositide-3-kinase (PI3K) phosphorylates phosphatidylinositol (PI) and its phosphorylated derivatives at position 3 of the inositol ring to produce 3-phosphoinositides. Uses ATP and PtdIns(4,5)P2 (phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3). PIP3 plays a key role by recruiting PH domain-containing proteins to the membrane, including AKT1 and PDPK1, activating signaling cascades involved in

cell growth, survival, proliferation, motility and morphology. Participates in cellular signaling in response to various growth factors. Involved in the activation of AKT1 upon stimulation by receptor tyrosine kinases ligands such as EGF, insulin, IGF1, VEGFA and PDGF. Involved in signaling via insulin-receptor substrate (IRS) proteins. Essential in endothelial cell migration during vascular development through VEGFA signaling, possibly by regulating RhoA activity. Required for lymphatic vasculature development, possibly by binding to RAS and by activation by EGF and FGF2, but not by PDGF. Regulates invadopodia formation through the PDPK1-AKT1 pathway. Participates in cardiomyogenesis in embryonic stem cells through a AKT1 pathway. Participates in vasculogenesis in embryonic stem cells through PDK1 and protein kinase C pathway. In addition to its lipid kinase activity, it displays a serine-protein kinase activity that results in the autophosphorylation of the p85alpha regulatory subunit as well as phosphorylation of other proteins such as 4EBP1, H-Ras, the IL-3 beta c receptor and possibly others. Plays a role in the positive regulation of phagocytosis and pinocytosis.

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