10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KD-Validated Anti-PIK3C2A Mouse Monoclonal Antibody

Mouse monoclonal Antibody
Catalog # AGI2170

Product Information

Application	WB
Primary Accession	O00443
Reactivity	Human
Clonality	Monoclonal
Isotype	Mouse IgG2a
Clone Names	24GB14050
Calculated MW	190680
Gene Name	PIK3C2A
Aliases	PIK3C2A; Phosphatidylinositol-4-Phosphate 3-Kinase Catalytic Subunit Type 2 Alpha; Phosphatidylinositol 4-Phosphate 3-Kinase C2 Domain-Containing Subunit Alpha; PI3K-C2alpha; Phosphoinositide-3-Kinase, Class 2, Alpha Polypeptide; Phosphoinositide 3-Kinase-C2-Alpha; PtdIns-3-Kinase C2 Subunit Alpha; PI3K-C2-Alpha; EC 2.7.1.154; Phosphatidylinositol-4-Phosphate 3-Kinase C2 Domain-Containing Subunit Alpha; Phosphatidylinositol-4-Phosphate 3-Kinase, Catalytic Subunit Type 2 Alpha; C2-Containing Phosphatidylinositol Kinase; PI3-K-C2(ALPHA); EC 2.7.1.137; EC 2.7.1.153; PI3-K-C2A; EC 2.7.1; OCSKD; CPK
Immunogen	Recombinant protein of human PIK3C2A

Additional Information

Gene ID	5286
Other Names	Phosphatidylinositol 4-phosphate 3-kinase C2 domain-containing subunit alpha, PI3K-C2-alpha, PtdIns-3-kinase C2 subunit alpha, 2.7.1.137, 2.7.1.153, 2.7.1.154, Phosphoinositide 3-kinase-C2-alpha, PIK3C2A

Protein Information

Name	PIK3C2A
Function	Generates phosphatidylinositol 3-phosphate (PtdIns3P) and phosphatidylinositol 3,4-bisphosphate (PtdIns(3,4)P2) that act as second messengers. Has a role in several intracellular trafficking events. Functions in insulin signaling and secretion. Required for translocation of the glucose transporter SLC2A4/GLUT4 to the plasma membrane and glucose uptake in response to insulin-mediated RHOQ activation. Regulates insulin secretion through two different mechanisms: involved in glucose-induced insulin secretion downstream of insulin receptor in a pathway that involves AKT1 activation and TBC1D4/AS160 phosphorylation, and participates in the late step of insulin granule exocytosis probably in insulin granule fusion. Synthesizes PtdIns3P in response to insulin signaling. Functions in

clathrin-coated endocytic vesicle formation and distribution. Regulates dynamin-independent endocytosis, probably by recruiting EEA1 to internalizing vesicles. In neurosecretory cells synthesizes PtdIns3P on large dense core vesicles. Participates in calcium induced contraction of vascular smooth muscle by regulating myosin light chain (MLC) phosphorylation through a mechanism involving Rho kinase-dependent phosphorylation of the MLCP-regulatory subunit MYPT1. May play a role in the EGF signaling cascade. May be involved in mitosis and UV-induced damage response. Required for maintenance of normal renal structure and function by supporting normal podocyte function. Involved in the regulation of ciliogenesis and trafficking of ciliary components (PubMed:31034465).

Cellular Location

Cell membrane. Cytoplasmic vesicle, clathrin-coated vesicle. Nucleus Cytoplasm Golgi apparatus, trans-Golgi network. Note=Inserts preferentially into membranes containing PtdIns(4,5)P2 (PubMed:17038310). Associated with RNA-containing structures (PubMed:11606566)

Tissue Location

Expressed in columnar and transitional epithelia, mononuclear cells, smooth muscle cells, and endothelial cells lining capillaries and small venules (at protein level). Ubiquitously expressed, with highest levels in heart, placenta and ovary, and lowest levels in the kidney. Detected at low levels in islets of Langerhans from type 2 diabetes mellitus individuals