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PIK3R1 Antibody (Y580)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8023f

Product Information

Application	WB, IHC-P, E
Primary Accession	P27986
Other Accession	Q63787, P26450, P23727, Q8UUU2
Reactivity	Human, Rat, Mouse
Predicted	Xenopus, Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB13326
Calculated MW	83598
Antigen Region	558-587

Additional Information

Gene ID	5295
Other Names	Phosphatidylinositol 3-kinase regulatory subunit alpha, PI3-kinase regulatory subunit alpha, PI3K regulatory subunit alpha, PtdIns-3-kinase regulatory subunit alpha, Phosphatidylinositol 3-kinase 85 kDa regulatory subunit alpha, PI3-kinase subunit p85-alpha, PtdIns-3-kinase regulatory subunit p85-alpha, PIK3R1, GRB1
Target/Specificity	This PIK3R1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 558-587 amino acids from human PIK3R1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PIK3R1 Antibody (Y580) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PIK3R1

Synonyms	GRB1
Function	Binds to activated (phosphorylated) protein-Tyr kinases, through its SH2 domain, and acts as an adapter, mediating the association of the p110 catalytic unit to the plasma membrane. Necessary for the insulin-stimulated increase in glucose uptake and glycogen synthesis in insulin-sensitive tissues. Plays an important role in signaling in response to FGFR1, FGFR2, FGFR3, FGFR4, KITLG/SCF, KIT, PDGFRA and PDGFRB. Likewise, plays a role in ITGB2 signaling (PubMed:17626883, PubMed:19805105, PubMed:7518429). Modulates the cellular response to ER stress by promoting nuclear translocation of XBP1 isoform 2 in a ER stress- and/or insulin-dependent manner during metabolic overloading in the liver and hence plays a role in glucose tolerance improvement (PubMed:20348923).
Tissue Location	Isoform 2 is expressed in skeletal muscle and brain, and at lower levels in kidney and cardiac muscle. Isoform 2 and isoform 4 are present in skeletal muscle (at protein level)

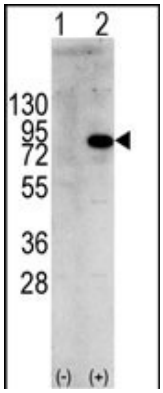
Background

Phosphatidylinositol 3-kinase phosphorylates the inositol ring of phosphatidylinositol at the 3-prime position. The enzyme comprises a 110 kD catalytic subunit and a regulatory subunit of either 85, 55, or 50 kD. This gene encodes the 85 kD regulatory subunit. Phosphatidylinositol 3-kinase plays an important role in the metabolic actions of insulin, and a mutation in this gene has been associated with insulin resistance.

References

Kobayashi, H., et al., J. Biol. Chem. 279(8):6371-6379 (2004).
Liu, H., et al., J. Cell Biol. 164(4):603-612 (2004).
Sun, M., et al., J. Biol. Chem. 278(44):42992-43000 (2003).
Khan, N.A., et al., J. Neurovirol. 9(6):584-593 (2003).
Lee, H.Y., et al., J. Biol. Chem. 278(26):23630-23638 (2003).

Images



Western blot analysis of PIK3R1 (arrow) using rabbit polyclonal PIK3R1 Antibody (Y580) (Cat.#AP8023f). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the PIK3R1 gene (Lane 2) (Origene Technologies).

Formalin-fixed and paraffin-embedded human skeletal muscle tissue reacted with PIK3R1-pY580, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.