BOSTER BIOLOGICAL TECHNOLOGY
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Anti-PIK3R4 Antibody Picoband®

Catalog Number: A06618-1

About PIK3R4

Phosphoinositide 3-kinase regulatory subunit 4, also known as PI3-kinase regulatory subunit 4 or PI3-kinase p150 subunit or phosphoinositide 3-kinase adaptor protein, or VPS15 is an enzyme that in humans is encoded by the PIK3R4 gene. The serine/threonine PI3 kinase regulatory subunit 4 (PIK3R4, Vps15) is the mammalian homologue of the yeast vacuolar protein sorting 15. PIK3R4 regulates the kinase activity of PI3K class III and anchors the kinase to cellular membranes through myristoylation. Recruitment of PI3K class III to the site of early endosome fusion and docking is directly mediated by PIK3R4 binding to the small GTPase Rab5 through its HEAT and WD-40 domains. The PIK3R4/PI3K class III plays a role in late endosome function through PIK3R4 binding to the Rab7 GTPase. In addition to its role in trafficking, the PIK3R4/PI3K class III complex interacts with beclin-1 to play a role during several stages of autophagy. Autophagosome formation is stimulated when Atg14 complexes with PIK3R4, PI3K class III, and beclin-1. The UVRAG protein competes with Atg14 for beclin-1 binding, forming a mutually exclusive complex with PIK3R4, PI3K class III, and beclin-1 that regulates autophagosome maturation. Autophagosome maturation is impaired in the presence of the beclin-1-binding protein Rubicon. Co-expression of PIK3R4 is required for PI3K class III activation and regulation by both beclin-1/UVRAG and by nutrients. Overexpression of PIK3R4 protein has been associated with decreased survival in patients with ovarian tumors, while mutations of the corresponding PIK3R4 gene are associated with metastatic melanoma, suggesting that PIK3R4 functions in cancer.

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Overview

Product Name	Anti-PIK3R4 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-PIK3R4 Antibody Picoband® catalog # A06618-1. Tested in ELISA, WB, Flow Cytometry applications. This antibody reacts with Human. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, Flow Cytometry, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Storage Instructions	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.
Host	Rabbit
Uniprot ID	Q99570

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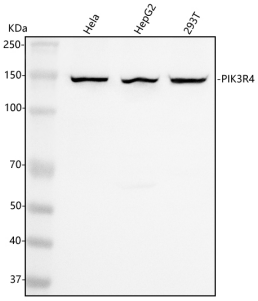
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Technical Details

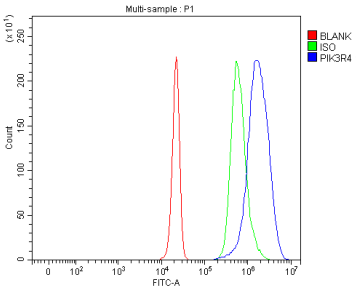
Immunogen	E.coli-derived human PIK3R4 recombinant protein (Position: R36-Q1339). Human PIK3R4 shares 95.7% and 95.6% amino acid (aa) sequence identity with mouse and rat PIK3R4, respectively.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
Cross Reactivity	No cross reactivity with other proteins.
Isotype	IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 µg/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5 ug/ml, Human Flow Cytometry (Fixed), 1-3 ug/1x10^6 cells, Human ELISA, 0.1-0.5 ug/ml, - Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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Anti-PIK3R4 Antibody Picoband® (A06618-1) Images



Western blot analysis of VPS15/PIK3R4 using anti-VPS15/PIK3R4 antibody (A06618-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human 293T whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-VPS15/PIK3R4 antigen affinity purified polyclonal antibody (Catalog # A06618-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for VPS15/PIK3R4 at approximately 150 kDa. The expected band size for VPS15/PIK3R4 is at 153 kDa.



Flow Cytometry analysis of HepG2 cells using anti-VPS15/PIK3R4 antibody (A06618-1). Overlay histogram showing HepG2 cells stained with A06618-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-VPS15/PIK3R4 Antibody (A06618-1, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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