BOSTER BIOLOGICAL TECHNOLOGY
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Anti-Rac1 Antibody Picoband®

Catalog Number: PB9431

About RAC1

Rac1, also known as Ras-related C3 botulinum toxin substrate 1, is a protein found in human cells. It is encoded by the RAC1gene. This gene can produce a variety of alternatively splicedversions of the Rac1 protein, which appear to carry out different functions. This gene is a GTPase which belongs to the RAS superfamily of small GTP-binding proteins. Members of this superfamily appear to regulate a diverse array of cellular events, including the control of cell growth, cytoskeletal reorganization, and the activation of protein kinases. Two transcript variants encoding different isoforms have been found for this gene.

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Overview

Product Name	Anti-Rac1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Rac1 Antibody Picoband® catalog # PB9431. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. 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	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	Store 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 freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P63000

Technical Details

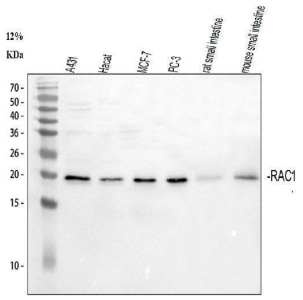
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Rac1, identical to the related mouse and rat sequences.

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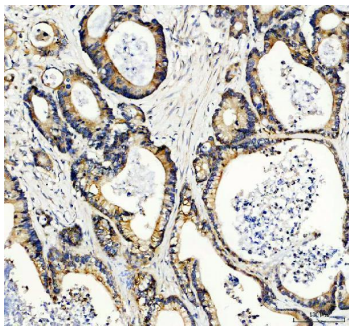
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5ug/ml, Human Immunocytochemistry/Immunofluorescence, 5ug/ml, Human Flow Cytometry(Fixed), 1-3 ug/1x10^6 cells, Human

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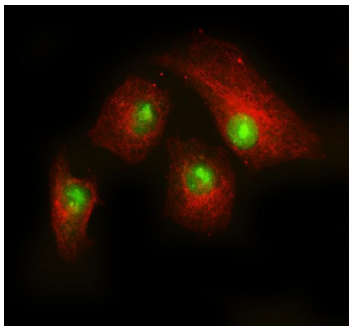
Anti-Rac1 Antibody Picoband® (PB9431) Images



Western blot analysis of Rac1 using anti-Rac1 antibody (PB9431). 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 A431 whole cell lysates, Lane 2: human Hacat whole cell lysates, Lane 3: human MCF-7 whole cell lysates, Lane 4: human PC-3 whole cell lysates, Lane 5: rat small intestine tissue lysates, Lane 6: mouse small intestine tissue 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-Rac1 antigen affinity purified polyclonal antibody (Catalog # PB9431) 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 Rac1 at approximately 21 kDa. The expected band size for Rac1 is at 21 kDa.

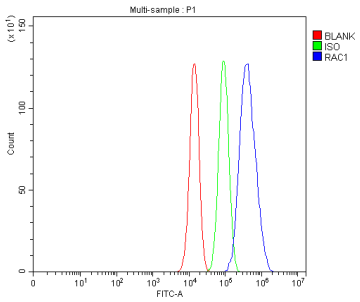


IHC analysis of Rac1 using anti-Rac1 antibody (PB9431). Rac1 was detected in a paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Rac1 Antibody (PB9431) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IF analysis of Rac1 using anti-Rac1 antibody (PB9431) and anti-Beta Tubulin antibody (M01857-3). Rac1 was detected in immunocytochemical section of A549 cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/mL rabbit anti-Rac1 Antibody (PB9431) and mouse anti-Beta Tubulin antibody (M01857-3) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) and DyLight®594 Conjugated Goat Anti-Mouse IgG (BA1141) were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

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Flow Cytometry analysis of U87 cells using anti-Rac1 antibody (PB9431). Overlay histogram showing U87 cells stained with PB9431 (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-Rac1 Antibody (PB9431, 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 without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

2 Publications Citing This Product

1. PubMed ID: 25037060, Shen L, Yang A, Yao P, Sun X, Chen C, Mo C, Shi L, Chen Y, Liu Q. Biometals. 2014 Aug;27(4):753-62. Doi: 10.1007/S10534-014-9769-9. Epub 2014 Jul 19. Gadolinium Promoted Proliferation In Mouse Embryo Fibroblast Nih3T3 Cells Through Rac And Pi3K/Ak...

2. PubMed ID: 28934273, Han F1, Zhuang TT1, Chen JJ1, Zhu XL1,2, Cai YF1, Lu YP1. PLoS One. 2017 Sep 21;12(9):e0185102. doi: 10.1371/journal.pone.0185102. eCollection 2017. Novel derivative of Paeonol, Paeononlsilatie sodium, alleviates behavioral damage and hippocampal ...

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Anti-Rac1 Antibody

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