

Product datasheet

Anti-Rac1 + Rac2 + Rac3 antibody [EPR18631] ab180683

Recombinant **RabMAb**

[1 References](#) [3 Images](#)

Overview

Product name	Anti-Rac1 + Rac2 + Rac3 antibody [EPR18631]
Description	Rabbit monoclonal [EPR18631] to Rac1 + Rac2 + Rac3
Host species	Rabbit
Tested applications	Suitable for: WB
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Recombinant fragment within Human Rac1 + Rac2 + Rac3 aa 1 to the C-terminus. The exact sequence is proprietary. Other database links. P60763: Rac3 and P15153: Rac2. Database link: P63000
Positive control	WB: Recombinant human Rac1, Rac2 and Rac3 full length protein. Human fetal brain lysate. HEK-293, HeLa, HUVEC, C6, RAW 264.7, PC-12 and NIH/3T3 whole cell lysates.

General notes

Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMAb[®] patents](#).

This product is a [recombinant rabbit monoclonal antibody](#).

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR18631
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab180683** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

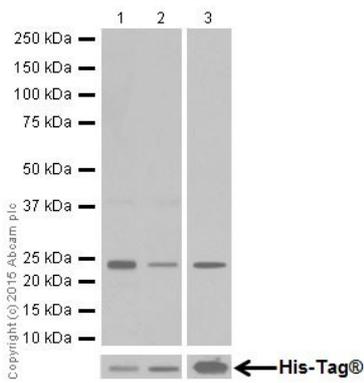
Application	Abreviews	Notes
WB		1/2000. Detects a band of approximately 21 kDa (predicted molecular weight: 21 kDa).

Target

Relevance

Rac1 function: Plasma membrane-associated small GTPase which cycles between active GTP-bound and inactive GDP-bound states. In its active state, binds to a variety of effector proteins to regulate cellular responses such as secretory processes, phagocytosis of apoptotic cells, epithelial cell polarization and growth-factor induced formation of membrane ruffles. Rac1 p21/rho GDI heterodimer is the active component of the cytosolic factor sigma 1, which is involved in stimulation of the NADPH oxidase activity in macrophages. Essential for the SPATA13-mediated regulation of cell migration and adhesion assembly and disassembly. Stimulates PKN2 kinase activity. In concert with RAB7A, plays a role in regulating the formation of RBs (ruffled borders) in osteoclasts. In glioma cells, promotes cell migration and invasion. In podocytes, promotes nuclear shuttling of NR3C2; this modulation is required for a proper kidney functioning. Required for atypical chemokine receptor ACKR2-induced LIMK1-PAK1-dependent phosphorylation of cofilin (CFL1) and for up-regulation of ACKR2 from endosomal compartment to cell membrane, increasing its efficiency in chemokine uptake and degradation. In synapses, seems to mediate the regulation of F-actin cluster formation performed by SHANK3. Isoform B has an accelerated GEF-independent GDP/GTP exchange and an impaired GTP hydrolysis, which is restored partially by GTPase-activating proteins. It is able to bind to the GTPase-binding domain of PAK but not full-length PAK in a GTP-dependent manner, suggesting that the insertion does not completely abolish effector interaction. Enzyme regulation: Regulated by guanine nucleotide exchange factors (GEFs) which promote the exchange of bound GDP for free GTP, GTPase activating proteins (GAPs) which increase the GTP hydrolysis activity, and GDP dissociation inhibitors which inhibit the dissociation of the nucleotide from the GTPase. GTP hydrolysis is stimulated by ARHGAP30. Rac2 function: Plasma membrane-associated small GTPase which cycles between an active GTP-bound and inactive GDP-bound state. In active state binds to a variety of effector proteins to regulate cellular responses, such as secretory processes, phagocytose of apoptotic cells and epithelial cell polarization. Augments the production of reactive oxygen species (ROS) by NADPH oxidase. Enzyme regulation: Regulated by guanine nucleotide exchange factors (GEFs) which promote the exchange of bound GDP for free GTP, GTPase activating proteins (GAPs) which increase the GTP hydrolysis activity, and GDP dissociation inhibitors which inhibit the dissociation of the nucleotide from the GTPase. Rac3 function: Plasma membrane-associated small GTPase which cycles between an active GTP-bound and inactive GDP-bound state. In active state binds to a variety of effector proteins to regulate cellular responses, such as cell spreading and the formation of actin-based protusions including lamellipodia and membrane ruffles. Promotes cell adhesion and spreading on fibrinogen in a CIB1 and alpha-IIb/beta3 integrin-mediated manner.

Images



Western blot - Anti-Rac1 + Rac2 + Rac3 antibody [EPR18631] (ab180683)

All lanes : Anti-Rac1 + Rac2 + Rac3 antibody [EPR18631] (ab180683) at 1/2000 dilution

Lane 1 : Recombinant Human Rac1 full length protein

Lane 2 : Recombinant Human Rac2 full length protein

Lane 3 : Recombinant Human Rac3 full length protein

Lysates/proteins at 0.01 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 21 kDa

Observed band size: 21 kDa

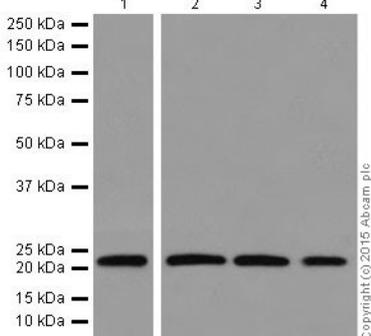
Blocking/Dilution buffer: 5% NFD/MBST.

Exposure time:

Lanes 1 & 2: 1 second.

Lane 3: 3 minutes.

Recombinant human Rac1 full length protein contains aa1-192 with a C-terminal His-Tag®; Recombinant human Rac2 full length protein contains aa1-192 with a C-terminal His-Tag®; Recombinant human Rac3 full length protein contains aa1-192 with a C-terminal His-Tag®. All three recombinant Rac's were made in house.



Western blot - Anti-Rac1 + Rac2 + Rac3 antibody [EPR18631] (ab180683)

All lanes : Anti-Rac1 + Rac2 + Rac3 antibody [EPR18631] (ab180683) at 1/2000 dilution

Lane 1 : Human fetal brain lysate

Lane 2 : HEK-293 (Human epithelial cells from embryonic kidney) whole cell lysate

Lane 3 : HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate

Lane 4 : HUVEC (Human umbilical vein endothelial cell line) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

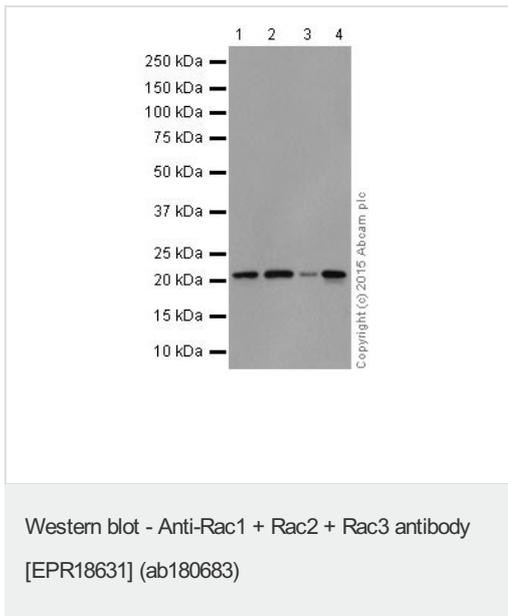
All lanes : Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 21 kDa

Observed band size: 21 kDa

Blocking/Dilution buffer: 5% NFDm/TBST.

Exposure time: Lane 1: 3 seconds; Lane 2-4 : 15 seconds.



All lanes : Anti-Rac1 + Rac2 + Rac3 antibody [EPR18631] (ab180683) at 1/2000 dilution

Lane 1 : C6 (Rat glial tumor cells) whole cell lysate

Lane 2 : RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysate

Lane 3 : PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate

Lane 4 : NIH/3T3 (Mouse embryo fibroblast cells) whole cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 21 kDa

Observed band size: 21 kDa

Exposure time: 3 seconds

Blocking/Dilution buffer: 5% NFDm/TBST.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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