abcam

ab243248

Anti-p115-RhoGEF antibody [JH-1]

Recombinant

Key facts

Isotype	IgG
Host species	Armenian hamster
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	JH-1
Purification technique	Affinity purification Protein A
Concentration	0.428 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Expected

Species	Mouse
Dilution info	1/50
Notes	-

Species	Rat
Dilution info	1/50
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/40
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Arhgef1

Function	Seems to play a role in the regulation of RhoA GTPase by guanine nucleotide-binding alpha-12 (GNA12) and alpha-13 (GNA13) subunits. Acts as a GTPase-activating protein (GAP) for GNA12 and GNA13, and as guanine nucleotide exchange factor (GEF) for RhoA GTPase. Activated G alpha 13/GNA13 stimulates the RhoGEF activity through interaction with the RGS-like domain. This GEF activity is inhibited by binding to activated GNA12. Mediates angiotensin-2-induced RhoA activation. Isoform 3 and isoform 4 do not homooligomerize and show an enhanced RhoGEF activity. In lymphoid follicles, may trigger activation of GNA13 as part of S1PR2-dependent signaling pathway that leads to inhibition of germinal center (GC) B cell growth and migration outside the GC niche.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The p115-RhoGEF also known as ARHGEF1 is a guanine nucleotide exchange factor that primarily activates RhoA a small GTPase. It has a molecular mass of approximately 115 kDa. You find p115-RhoGEF predominantly expressed in the heart lung and brain tissues. This protein facilitates the exchange of GDP for GTP on RhoA triggering downstream signaling events essential for cellular functions like growth motility and organization of cytoskeletal structures.
Biological function summary	P115-RhoGEF plays an important role in regulating actin cytoskeleton dynamics and transmitting signals from G-protein-coupled receptors. The protein is part of a signaling complex that includes heterotrimeric G proteins. Through its influence on the actin cytoskeleton p115-RhoGEF helps control changes in cell shape and movement. These activities contribute significantly to various cellular processes including differentiation and migration.
Pathways	P115-RhoGEF is an essential component in the RhoA signaling pathway. This pathway regulates cytoskeletal dynamics and has critical implications for processes like cell adhesion and migration. p115-RhoGEF collaborates with other proteins such as Gα12/13 subunits to mediate its signaling effects. Besides the RhoA pathway p115-RhoGEF also interacts with the PI3K/Akt pathway influencing cellular survival and apoptosis.

Associated diseases and disorders	Disruptions in p115-RhoGEF activity link to cardiovascular diseases and certain forms of cancer. Alterations in its function may lead to improper cell movement contributing to metastasis in cancer development. Additionally abnormal regulation of RhoA signaling connected to p115-RhoGEF could compromise vascular integrity implicating this protein in hypertension. During disease progression p115-RhoGEF interacts with other proteins like ROCK1 to exert these pathological effects.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

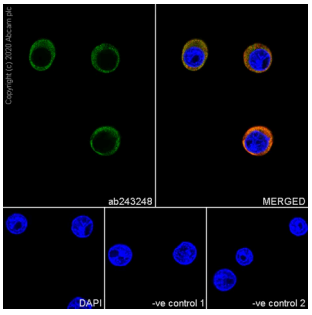
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

6 product images



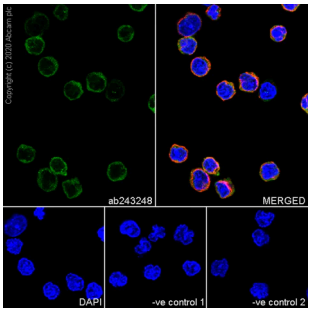
Immunocytochemistry/ Immunofluorescence - Anti-p115-RhoGEF antibody [JH-1] (ab243248)

P115-RhoGEF Immunocytochemistry/ Immunofluorescence staining using armenian hamster Anti-p115-RhoGEF antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized EL4 (mouse lymphoma T lymphocyte) cells labelling p115-RhoGEF with ab243248 at 1/50 dilution, followed by ab173003 Goat Anti-Armenian hamster IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in EL4 cells. ab179513 Anti-beta Tubulin rabbit monoclonal antibody was used to counterstain tubulin at 1/200 dilution, followed

by ab150080 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) at a 1/1000 dilution (Red). The nuclear counterstain was DAPI (Blue).
Negative control 1: ab243248 at a 1/50 dilution followed by ab150080 at a 1/1000 dilution.

Negative control 2: ab179513 at a 1/200 dilution followed by ab173003 at a 1/1000 dilution.

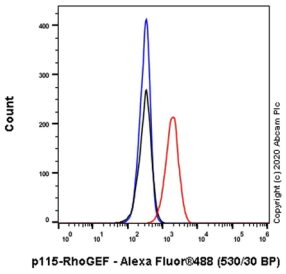


Immunocytochemistry/ Immunofluorescence - Anti-p115-RhoGEF antibody [JH-1] (ab243248)

P115-RhoGEF Immunocytochemistry/ Immunofluorescence staining using armenian hamster Anti-p115-RhoGEF antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized A20 (mouse reticulum sarcoma B lymphocyte) cells labelling p115-RhoGEF with ab243248 at 1/50 dilution, followed by ab173003 Goat Anti-Armenian hamster IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in A20 cells. ab179513 Anti-beta Tubulin rabbit monoclonal antibody was used to counterstain tubulin at 1/200 dilution, followed by ab150080 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) at a 1/1000 dilution (Red). The nuclear counterstain was DAPI (Blue).
Negative control 1: ab243248 at a 1/50 dilution followed by ab150080 at a 1/1000 dilution.

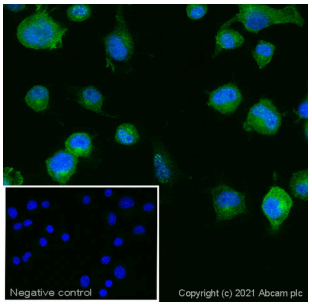
Negative control 2: ab179513 at a 1/200 dilution followed by ab173003 at a 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-p115-RhoGEF antibody [JH-1] (ab243248)

P115-RhoGEF Flow Cytometry (Intracellular) staining using armenian hamster Anti-p115-RhoGEF antibody

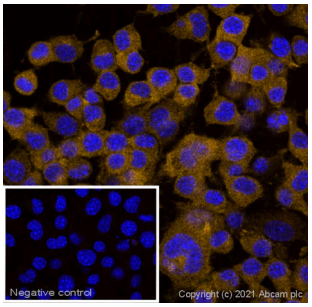
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized EL-4 (mouse lymphoma T lymphocyte) cells labelling p115-RhoGEF with ab243248 at 1/40 dilution (1µg) (Red) compared with an Armenian hamster monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti armenian hamster IgG (Alexa Fluor® 488, ab173003) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-p115-RhoGEF antibody [JH-1] (ab243248)

P115-RhoGEF Immunocytochemistry/ Immunofluorescence staining using armenian hamster Anti-p115-RhoGEF antibody

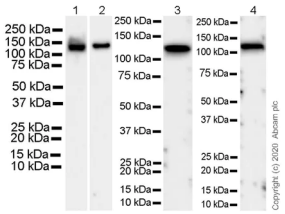
ICC/IF image of ab243248 stained Neuro2a cells. The cells were 4% formaldehyde fixed (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab243248, 1.6µg/ml) overnight at +4°C. The secondary antibody (green) was ab173003 Goat Anti-Armenian hamster IgG H&L (Alexa Fluor® 488) used at 1µg/ml for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.
The negative control (inset) is a secondary-only assay to demonstrate low non-specific binding of the secondary antibody.



Immunocytochemistry - Anti-p115-RhoGEF antibody [JH-1] (ab243248)

P115-RhoGEF Immunocytochemistry staining using armenian hamster Anti-p115-RhoGEF antibody

ICC/IF image of ab243248 stained TRA-differentiated Neuro2a cells. The cells were 4% formaldehyde fixed (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab243248, 1.6µg/ml) overnight at +4°C. The secondary antibody (orange) was ab175716 Goat Anti-Armenian hamster IgG H&L (Alexa Fluor® 568) used at 1µg/ml for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.
The negative control (inset) is a secondary-only assay to demonstrate low non-specific binding of the secondary antibody.



Western blot - Anti-p115-RhoGEF antibody [JH-1] (ab243248)

P115-RhoGEF Western blot staining using armenian hamster Anti-p115-RhoGEF antibody

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 11384980).

Lysates should be made freshly and used in WB immediately.
Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure times: Lanes 1/2： 3 seconds; Lane 3： 15 seconds; Lane 4： 37 seconds.

All lanes:
Western blot - Anti-p115-RhoGEF antibody [JH-1] (ab243248) at 1/1000 dilution

Lane 1:
A20 (mouse reticulum sarcoma B lymphocyte), whole cell lysate at 10 µg

Lane 2:
EL4 (mouse lymphoma T lymphocyte), whole cell lysate at 10 µg

Lane 3:
PC-12 (rat adrenal gland pheochromocytoma), whole cell lysate at 10 µg

Lane 4:
C6 (rat glial tumor glial cell), whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Rabbit Anti-Armenian hamster IgG H&L (HRP) (ab5745) at 1/5000 dilution

Predicted band size: 102 kDa

Observed band size: 115 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.