abcam

ab209435

PE Anti-alpha smooth muscle Actin (acetyl E3) + ACTG2 (acetyl E3) antibody [E184]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	E184
Purification technique	Affinity purification Protein A
Specificity	The antibody has been shown to detect P62736-ACTA (gene *ACTA2*): (Ac)-EEEDSTALVC and P63267-ACTH (gene *ACTG2*): (Ac)-EEETTALVC in indirect ELISA.
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Rat
Dilution info	1/500
Notes	This product gave a positive signal in SV40LT cells fixed with 4% formaldehyde (10 min)

Expected

Species	Human
Dilution info	1/500
Notes	This product gave a positive signal in SV40LT cells fixed with 4% formaldehyde (10 min)

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/5000
Notes	ab209478 - Rabbit monoclonal IgG (Phycoerythrin), is suitable for use as an isotype control with this antibody.

Expected

Species	Human, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Target data

See full target information ACTA2 acE3

Function	Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Do Not Freeze, Store in the dark

Notes

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

Supplementary info

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

Activity summary	Alpha smooth muscle Actin also known as ACTG2 is an important protein in muscle contraction and cellular structure. It is most commonly found in smooth muscle cells and is not typically expressed in striated muscle. This protein is part of the actin family and has a molecular mass of approximately 42 kDa. ACTG2 plays a role in forming microfilaments which are key components of the muscle contractile machinery. In smooth muscle tissues such as those found in the intestines and blood vessels ACTG2 is often detected together with other cytoskeletal and regulatory proteins.
Biological function summary	ACTG2 contributes to muscle contraction by facilitating the interaction between actin and myosin. It is not considered a part of a protein complex but interacts closely with several other proteins involved in contractile functions. Beyond

	contraction ACTG2 also supports cellular integrity and shape maintenance. In tissues ACTG2 is involved in activities that require dynamic structural reorganization such as during cellular migration and wound healing highlighting its versatility beyond just a contractile agent.
Pathways	ACTG2 participates in the regulation of the smooth muscle contraction pathway influencing muscle tone and responsiveness to stimuli. The actin-myosin interaction where ACTG2 is involved is critical for the contractile process with other proteins like myosin light chain kinase (MLCK) and tropomyosin playing supportive roles. Additionally the integrin signaling pathway is another context where ACTG2 is indirectly involved aiding in the transmission of mechanical signals from the extracellular matrix to the cell.
Associated diseases and disorders	ACTG2 is associated with conditions such as megacystis-microcolon-intestinal hypoperistalsis syndrome (MMIHS) and various vascular disorders. Mutations in the ACTG2 gene can disrupt normal muscle function leading to defective peristalsis in the gastrointestinal tract as seen in MMIHS. The connection between ACTG2 and myosin regulatory light chains illustrates how changes in its function can impact muscle contractility and lead to disease. In vascular disorders abnormal expression of ACTG2 is often linked to impaired vessel tone and blood flow regulation.

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

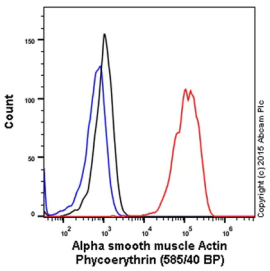
We do not recommend this combination. It is not covered by our product promise.

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.

2 product images

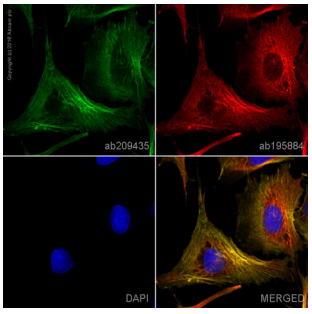


Flow Cytometry (Intracellular) - PE Anti-alpha smooth muscle Actin (acetyl E3) + ACTG2 (acetyl E3) antibody [E184] (ab209435)

Overlay histogram showing SV40LT-SMC cells stained with ab209435 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab209435, 1/5000 dilution) for 30 min at 22°C.
Isotype control antibody (black line) was rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 20 mW Solid State Blue Laser (488nm) and 585/40 bandpass filter.

This antibody gave a positive signal in SV40LT-SMC cells fixed with 4% formaldehyde (10 min)/permeabilized with 0.1% PBS-Triton X-100 for 15 min used under the same conditions.



Immunocytochemistry/ Immunofluorescence - PE Anti-alpha smooth muscle Actin (acetyl E3) + ACTG2 (acetyl E3) antibody [E184] (ab209435)

ab209435 staining alpha smooth muscle Actin in SV40LT-SMC cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab209435 at 1/500 dilution (Pseudocolored in green) and ab195884, Rat monoclonal to Tubulin (Alexa Fluor® 647), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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