abcam

ab223921

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

Recombinant RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	APC
Excitation/Emission	Ex: 650nm, Em: 660nm
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

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/5000
Notes	The cellular localisation of this product has been verified in ICC/IF.

Expected

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

ICC/IF

Expected

Species	Human, Mouse, Rat
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.

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.

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

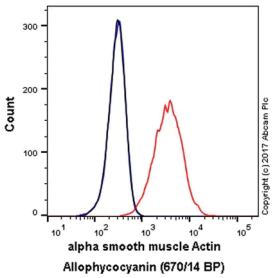
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry (Intracellular) - APC Anti-alpha smooth muscle Actin (acetyl E3) + ACTG2 (acetyl E3) antibody [E184] (ab223921)

Overlay histogram showing SV40LT-SMC cells stained with ab223921 (red line). The cells were fixed with 4% formaldehyde (10 minutes) and then permeabilized with 0.1% PBS-Triton X-100 for 15 minutes. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab223921, 1/5000 dilution) for 30 minutes at 22°C.
Isotype control antibody (black line) was Rabbit IgG (monoclonal) Allophycocyanin used at the same concentration and conditions as the primary antibody. Unlabeled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 40 mW Red laser (640nm) and 670/14 bandpass filter.

This antibody gave a positive signal in SV40LT-SMC cells fixed with 80% methanol (5 minutes)/permeabilized with 0.1% PBS-Triton X-100 for 15 minutes used under the same conditions.

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