### Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-alpha smooth muscle Actin antibody [E184]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Rabbit monoclonal [E184] to alpha smooth muscle Actin</td>
</tr>
<tr>
<td>Host species</td>
<td>Rabbit</td>
</tr>
<tr>
<td>Specificity</td>
<td>This antibody only detects actin in smooth muscle in immunohistochemistry.</td>
</tr>
</tbody>
</table>
| Tested applications | Suitable for: IHC-FrFl, IHC-Fr, WB, IHC-P, Flow Cyt, ICC/IF  
Unsuitable for: IP |
| Species reactivity | Reacts with: Mouse, Rat, Human |
| Immunogen    | Synthetic peptide within Human alpha smooth muscle Actin (N terminal). The exact sequence is proprietary.  
Database link: P62736  
(Peptide available as ab211918) |
| 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  
We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.  
This product is a recombinant rabbit monoclonal antibody. |

### Properties

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
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<tbody>
<tr>
<td>Storage instructions</td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.</td>
</tr>
</tbody>
</table>
Storage buffer
- pH: 7.20
- Preservative: 0.01% Sodium azide
- Constituents: PBS, 40% Glycerol, 0.05% BSA

Purity
- Immunogen affinity purified

Clonality
- Monoclonal

Clone number
- E184

Isotype
- IgG

Applications

Our Abpromise guarantee covers the use of ab32575 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-FrFl</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 24647450</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td>★★★★★</td>
<td>1/100.</td>
</tr>
<tr>
<td>IF</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 28138565</td>
</tr>
<tr>
<td>WB</td>
<td>★★★★★</td>
<td>1/1000 - 1/5000. Detects a band of approximately 42 kDa (predicted molecular weight: 42 kDa). Can be blocked with Human alpha smooth muscle Actin peptide (ab211918).</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td>1/20.</td>
<td>ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>1/500.</td>
<td></td>
</tr>
</tbody>
</table>

Application notes
- Is unsuitable for IP.

Target

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

Involvement in disease
- Defects in ACTA2 are the cause of aortic aneurysm familial thoracic type 6 (AAT6) [MIM:611788]. AATs are characterized by permanent dilation of the thoracic aorta usually due to degenerative changes in the aortic wall. They are primarily associated with a characteristic histologic appearance known as ‘medial necrosis’ or ‘Erdheim cystic medial necrosis’ in which there is degeneration and fragmentation of elastic fibers, loss of smooth muscle cells, and an accumulation of basophilic ground substance.

Sequence similarities
- Belongs to the actin family.

Cellular localization
- Cytoplasm > cytoskeleton.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human smooth muscle tissue labelling alpha smooth muscle Actin with purified ab32575 at a dilution of 1/200. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

Immunocytochemistry/Immunofluorescence analysis of A431 (human epidermoid carcinoma) cells labelling alpha smooth muscle Actin (green) with purified ab32575 at 1/500. Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% Triton X-100. ab150077, Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. Cells were counter-stained with ab7291, anti-Tubulin (mouse mAb) at 1/1000 followed by ab150120 AlexaFluor®594 goat anti-mouse secondary (1/1000). Nuclei were counterstained with DAPI (blue).

For negative control 1, rabbit primary antibody and anti-mouse secondary antibody (ab150120) were used. For negative control 2, ab7291 (mouse primary antibody) was used followed by anti-rabbit secondary antibody (ab150077).
Western blot - Anti-alpha smooth muscle Actin antibody [E184] (ab32575)

All lanes: Anti-alpha smooth muscle Actin antibody [E184] (ab32575) at 1/5000 dilution (purified)

Lane 1: A431 whole cell lysate
Lane 2: HeLa whole cell lysate
Lane 3: MCF-7 whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes: Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 42 kDa
Observed band size: 42 kDa

Blocking and dilution buffer: 5% NFDM/TBST

Flow Cytometry analysis of HeLa cells
labelling alpha smooth muscle Actin with purified ab32575 at a dilution of 1/20 (red).
Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.
Western blot - Anti-alpha smooth muscle Actin antibody [E184] (ab32575)

All lanes: Anti-alpha smooth muscle Actin antibody [E184] (ab32575) at 1/5000 dilution (purified)

Lane 1: C6 whole cell lysate
Lane 2: RAW264.7 whole cell lysate
Lane 3: PC-12 whole cell lysate
Lane 4: NIH/3T3 whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes: Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 42 kDa
Observed band size: 42 kDa

Blocking and dilution buffer: 5% NFDM/TBST

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha smooth muscle Actin antibody [E184] (ab32575)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse smooth muscle tissue labelling alpha smooth muscle Actin with purified ab32575 at a dilution of 1/200. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.
Unpurified ab32575 staining alpha smooth muscle actin in human kidney tumour sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with acetone and blocked with 10% serum for 20 minutes at 21°C. Samples were incubated with primary antibody (1/100 in TBS + 2% BSA + 0.02% sodium azide) for 1 hour at 21°C. An undiluted HRP-conjugated Goat anti-rabbit polyclonal was used as the secondary antibody.

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