abcam

**ab51870**

# Anti-ALK-1 antibody [MM0015-8G33]

## Key facts

| | |
|---|---|
| **Isotype** | IgG2a |
| **Host species** | Mouse |
| **Storage buffer** | Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Recombinant Full Length Protein corresponding to Human ACVRL1. Database link P37023 |
| **Carrier free** | Yes |
| **Clone number** | MM0015-8G33 |
| **Purification technique** | Affinity purification Protein G |
| **Concentration** | 0.5 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1 µg for $10^6$ Cells |
| **Notes** | ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody. |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/200 - 1/800 |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50 |
| **Notes** | - |

## Target data

See full target information ACVRL1

| | |
|---|---|
| **Function** | Type I receptor for TGF-beta family ligands BMP9/GDF2 and BMP10 and important regulator of normal blood vessel development. On ligand binding, forms a receptor complex consisting of two type II and two type I transmembrane serine/threonine kinases. Type II receptors phosphorylate and activate type I receptors which autophosphorylate, then bind and activate SMAD transcriptional regulators. May bind activin as well. |

## Storage

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|---|---|
| **Shipped at conditions** | Blue Ice |
| **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 |

## Supplementary info

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

| | |
|---|---|
| **Activity summary** | ALK-1 also known as ACVRL1 or ALK1 protein is a receptor serine/threonine kinase with a molecular mass of approximately 55 kDa. It plays an important role in the TGF-beta superfamily signaling particularly in angiogenesis and blood vessel development. Expressed mainly in endothelial cells ALK-1 mediates cellular responses essential for maintaining vascular stability. The careful balance of its signaling is necessary indicating its importance in physiological conditions. |
| **Biological function summary** | The function of ALK-1 extends to the formation and maintenance of vascular endothelium as part of the larger receptor complex. It interacts with ligands such as BMP9 and BMP10 which regulate endothelial cell proliferation and differentiation. ALK-1's role as part of this receptor complex highlights its involvement in controlling the fine balance between angiogenic and anti-angiogenic processes. Its biological activity is vital for healthy vascular development and homeostasis. |
| **Pathways** | ALK-1 activation is a part of the BMP signaling pathway a branch of the larger TGF-beta pathway. This pathway is significant in various cellular processes including growth and differentiation. ALK-1 interacts with other signalling mediators like SMAD1/5/8 proteins which translocate to the nucleus to affect gene expression. Connecting with these pathways ALK-1 aligns closely with ACVR2A and ENG (Endoglin) which further highlight its role in vascular biology. |
| **Associated diseases and disorders** | ALK-1 mutations or dysregulation leads to conditions such as hereditary hemorrhagic telangiectasia (HHT) and pulmonary arterial hypertension (PAH). These conditions showcase the important role ALK-1 plays in vascular integrity and signaling. ALK-1 is connected to disorders through interactions with proteins such as ENG further highlighting its involvement in vascular-related pathologies. Maintaining precise ALK-1 function is pivotal to preventing these disorders indicating its potential as a therapeutic target or biomarker. |

## 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**

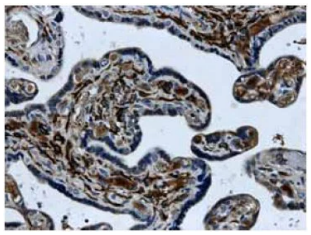
We do not recommend this combination. It is not covered by our product promise.

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.

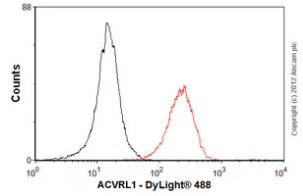
## 3 product images



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ALK-1 antibody [MM0015-8G33] (ab51870)

ALK-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-ALK-1 antibody

ab51870 at 1/50 dilution staining ALK-1 in Human placental tissue section by Immunohistochemistry (Formalin/PFA fixed paraffin-embedded sections).

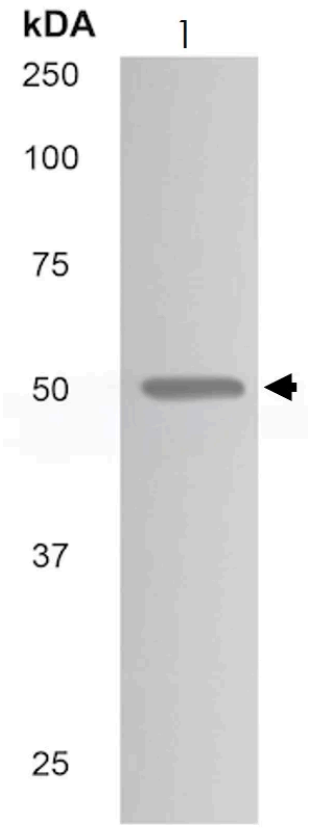



### Flow Cytometry - Anti-ALK-1 antibody [MM0015-8G33] (ab51870)

ALK-1 Flow Cytometry staining using mouse Anti-ALK-1 antibody

Overlay histogram showing JEG3 cells stained with ab51870 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab51870, 1µg/1x$10^6$ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1µg/1x$10^6$ cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in JEG3 cells fixed with 4% paraformaldehyde (10 min) used under the same conditions.

Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.




# Western blot - Anti-ALK-1 antibody [MM0015-8G33] (ab51870)

All lanes:
Western blot - Anti-ALK-1 antibody [MM0015-8G33] (ab51870) at 1/200 dilution

All lanes:
Human placenta tissue lysate

Predicted band size: 56 kDa

Observed band size: 50 kDa

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