abcam

ab2529

Anti-CD105 antibody [MEM-226]

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Clone number	MEM-226
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS. Purity >95% by SDS-PAGE.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1-5 µg/mL
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	-
Notes	-

sELISA

Tested

Species	Human
Dilution info	5 µg/mL
Notes	For sandwich ELISA, use this antibody as Capture at 5 µg/ml with Rabbit polyclonal to CD105 (ab21224) as Detection.

ICC/IF

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Target data

See full target information ENG

Function

Vascular endothelium glycoprotein that plays an important role in the regulation of angiogenesis (PubMed:21737454, PubMed:23300529). Required for normal structure and integrity of adult vasculature (PubMed:7894484). Regulates the migration of vascular endothelial cells (PubMed:17540773). Required for normal extraembryonic angiogenesis and for embryonic heart development (By similarity). May regulate endothelial cell shape changes in response to blood flow, which drive vascular remodeling and establishment of normal vascular morphology during angiogenesis (By similarity). May play a critical role in the binding of endothelial cells to integrins and/or other RGD receptors (PubMed:1692830). Acts as a TGF-beta coreceptor and is involved in the TGF-beta/BMP signaling cascade that ultimately leads to the activation of SMAD transcription factors (PubMed:21737454, PubMed:22347366, PubMed:23300529, PubMed:8370410). Required for GDF2/BMP9 signaling through SMAD1 in endothelial cells and

modulates TGFB1 signaling through SMAD3 (PubMed:21737454, PubMed:22347366, PubMed:23300529).

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

Supplementary info

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

Activity summary	CD105 also known as endoglin or the CD105 marker is a transmembrane glycoprotein with a molecular weight of approximately 180 kDa. It is a component of the TGF-beta receptor complex and exists in endothelial cells where it is abundantly expressed. Expression of CD105 is higher in proliferating cells particularly in the vasculature. You can also find it in tissues involved in the formation and remodeling of blood vessels such as during angiogenesis.
Biological function summary	Endoglin functions in the regulation of angiogenesis and vascular remodeling. It plays a significant role in mediating cellular responses to TGF-beta signaling influencing endothelial cell proliferation and migration. While not part of a larger structural complex endoglin interacts with receptors and signaling molecules important for vascular development and repair processes. This involvement aids in maintaining endothelial integrity and function under various physiological conditions.
Pathways	CD105 participates in the TGF-beta signaling and angiogenesis pathways. In these pathways it acts in conjunction with other proteins like TGF-beta receptors which play roles in cell differentiation proliferation and apoptosis. The interaction between CD105 and TGF-beta signaling regulates numerous cellular mechanisms impacting angiogenesis and cellular responses to environmental changes.
Associated diseases and disorders	CD105 has links to hereditary hemorrhagic telangiectasia (HHT) and certain cancers. In HHT mutations in the endoglin gene alter vascular structure leading to the formation of abnormal blood vessels. Oncologically overexpression of CD105 is present in tumor angiogenesis aiding in the progression of certain cancers. Other

proteins like VEGF and TGF-beta closely interact with endoglin influencing disease progression and presenting potential targets for therapeutic intervention.

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

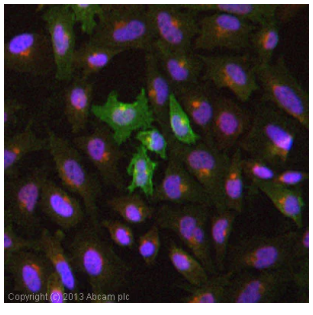
We do not recommend this combination. It is not covered by our product promise.

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.

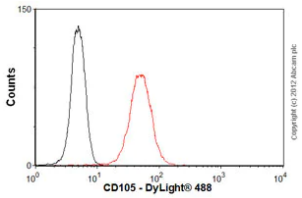
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-CD105 antibody [MEM-226] (ab2529)

CD105 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-CD105 antibody

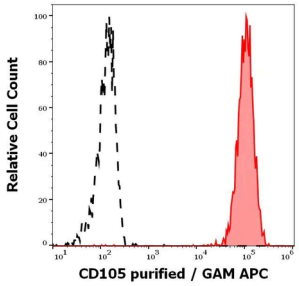
ICC/IF image of ab2529 stained HeLa (Human epithelial cell line from cervix adenocarcinoma) cells.
The cells were 4% formaldehyde fixed (10 min) and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1 hour to permeabilize the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab2529, 10 µg/ml) overnight at +4°C. The secondary antibody (green) was ab69879, DyLight® 488 goat anti-mouse IgG (H+L) used at a 1/250 dilution for 1 hour. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1 hour. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43 µM.



Flow Cytometry - Anti-CD105 antibody [MEM-226] (ab2529)

CD105 Flow Cytometry staining using mouse Anti-CD105 antibody

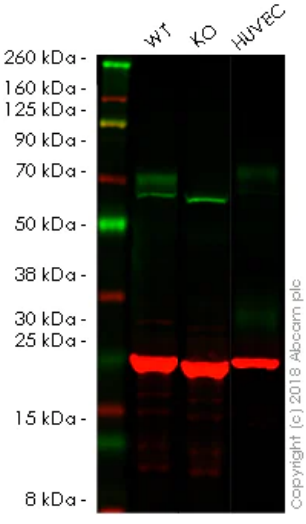
Overlay histogram showing U937 (Human histiocytic lymphoma cell line) cells stained with ab2529 (red line).
The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab2529, 1µg/1x10^6 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 IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in U937 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Flow Cytometry - Anti-CD105 antibody [MEM-226] (ab2529)

CD105 Flow Cytometry staining using mouse Anti-CD105 antibody

Flow cytometry analysis showing separation of HUVEC cells stained using ab2529 (concentration in sample 1.67 µg/ml, GAM APC, red-filled) from HUVEC cells unstained by primary antibody (GAM APC, black-dashed).



Western blot - Anti-CD105 antibody [MEM-226] (ab2529)

Lanes 1 - 3: Merged signal (red and green). Green - ab2529 observed at 70 kDa. Red - loading control, ab181602, observed at 37 kDa.
ab2529 was shown to recognize ENG (Endoglin) in wild-type HeLa cells as signal was lost at the expected MW in ENG knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and ENG knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% milk. ab2529 and ab181602 (Rabbit anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preabsorbed ab216772 and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preabsorbed ab216777 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

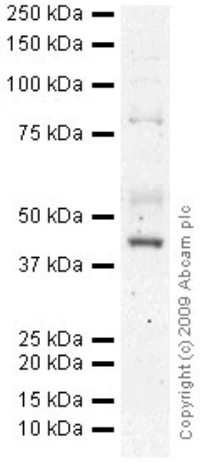
All lanes:
Western blot - Anti-CD105 antibody [MEM-226] (ab2529) at 1/1000 dilution

Lane 1:
Wild-type HeLa whole cell lysate at 20 µg

Lane 2:
CD105 knockout HeLa whole cell lysate at 20 µg

Lane 3:
HUVEC whole cell lysate at 20 µg

Predicted band size: 70 kDa



Western blot - Anti-CD105 antibody [MEM-226] (ab2529)

All lanes:
Western blot - Anti-CD105 antibody [MEM-226] (ab2529) at 5 µg/mL

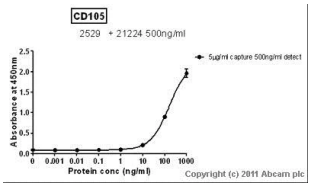
All lanes:
Human colon tissue lysate at 10 µg

Secondary

All lanes:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Predicted band size: 70 kDa

Observed band size: 45 kDa, 55 kDa, 80 kDa



Sandwich ELISA - Anti-CD105 antibody [MEM-226] (ab2529)

Standard Curve for CD105 (Analyte: CD105 protein (ab54338)); dilution range 1pg/ml to 1ug/ml using Capture Antibody Mouse monoclonal [MEM-226] to CD105 (ab2529) at 5ug/ml and Detector Antibody Rabbit polyclonal to CD105 (ab21224) at 0.5ug/ml.

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