abcam

ab2786

Anti-Endothelin 1 antibody [TR.ET.48.5]

Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786) is a mouse monoclonal antibody detecting Endothelin 1 in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Over 70 publications
- Trusted since 2003

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human EDN1 conjugated to Keyhole Limpet Haemocyanin. Database link P05305
Clone number	TR.ET.48.5
Purification technique	Affinity purification Protein G
Specificity	Immunohistochemical staining of ET-1 in human corpus cavernosum tissue with this antibody results in staining of endothelial cells.Radioimmune assays can be used to concentrate ET-1 in solution (e.g. serum/plasma, milk, urine).
Epitope	Studies suggest that this antibody binds to an epitope in the region of ET-1 represented by amino acids 8-16.
Concentration	2.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

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

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Rat
Dilution info	1/100 - 1/1000
Notes	-

Expected

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

IHC-P

Tested

Species	Human
Dilution info	1/250
Notes	-

Expected

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

ICC/IF

Tested

Species	Rat
Dilution info	1/200 - 1/1000
Notes	-

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

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

Target data

See full target information EDN1

Function	Endothelins are endothelium-derived vasoconstrictor peptides (By similarity). Probable ligand for G-protein coupled receptors EDNRA and EDNRB which activates PTK2B, BCAR1, BCAR3 and, GTPases RAP1 and RHOA cascade in glomerular mesangial cells (PubMed:19086031). Also binds the DEAR/FBXW7-AS1 receptor (PubMed:17446437). Promotes mesenteric arterial wall remodeling via activation of ROCK signaling and subsequent colocalization of NFATC3 with F-actin

filaments (By similarity). NFATC3 then translocates to the nucleus where it subsequently promotes the transcription of the smooth muscle hypertrophy and differentiation marker ACTA2 (By similarity).

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

Notes

What is this antibody validated in?
Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of Endothelin 1?
Anti-Endothelin 1 [TR.ET.48.5] (ab2786) specifically detects a band for Endothelin 1 (UniProt: P05305) at a molecular weight of 24kDa.

Trusted by the scientific community
Anti-Endothelin 1 [TR.ET.48.5] (ab2786) was first used in a scientific publication in 2003 and has been cited over 70 times in peer-reviewed journals.

Supplementary info

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

Activity summary	Endothelin 1 (ET-1) is a potent vasoconstrictor peptide with a molecular mass of approximately 2.5 kDa. The gene encoding ET-1 is expressed predominantly in endothelial cells where it exerts its vasoconstrictive effect. It is synthesized as a prepropeptide that undergoes cleavage to form the mature ET-1 peptide. The primary expression occurs in the vascular endothelial cells but it is also found in the kidney lung and brain indicating its widespread physiological role.

Biological function summary	ET-1 regulates vascular tonus and blood pressure. It is part of the endothelin family that includes endothelin-2 (ET-2) and endothelin-3 (ET-3). ET-1 binds to endothelin receptors such as ETA and ETB which are G protein-coupled receptors facilitating cellular signaling processes. These receptors are abundant in smooth muscle cells and the central nervous system. The interaction of ET-1 with these receptors affects not only vascular smooth muscle contraction but also cell proliferation and production of extracellular matrix proteins.
Pathways	ET-1 plays an important role in the renin-angiotensin-aldosterone system and the nitric oxide signaling pathway. ET-1 interacts closely with angiotensin II a peptide hormone that increases blood pressure by stimulating the production of endothelin in endothelial cells. The release of nitric oxide by endothelium serves as a counter-regulatory mechanism to ET-1-mediated vasoconstriction. The balance between ET-1 and nitric oxide is vital for maintaining vascular homeostasis.
Associated diseases and disorders	ET-1 is significantly implicated in hypertension and pulmonary arterial hypertension (PAH). The overproduction of ET-1 contributes to sustained high blood pressure and arterial stiffness. In PAH ET-1 levels are increased leading to the constriction and proliferation of pulmonary vascular cells. ET-1's interaction with proteins like transforming growth factor-beta (TGF-B) further enhances its role in vascular remodeling associated with these conditions. Understanding ET-1's interaction in these pathways has made it a therapeutic target for treating these cardiovascular diseases.

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

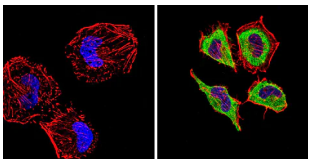
We do not recommend this combination. It is not covered by our product promise.

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.

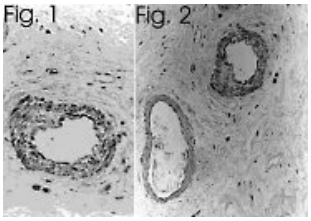
9 product images



Immunocytochemistry/ Immunofluorescence - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

Endothelin 1 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Endothelin 1 antibody

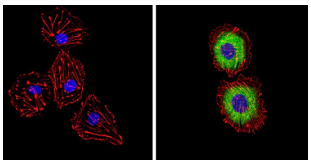
ab2786 labelling Endothelin 1 (green) in the secretion of HeLa cells (right) compared with a negative control (left) by Immunocytochemistry/Immunofluorescence. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were incubated with the primary antibody (1:200 in 3% BSA-PBS) overnight at 4 °C. A DyLight 488-conjugated Goat anti-mouse IgG (H+L) was used as the secondary antibody. Red (phalloidin) - F-actin, Blue (DAPI) - nuclei. Images were taken at a magnification of 60x.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

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

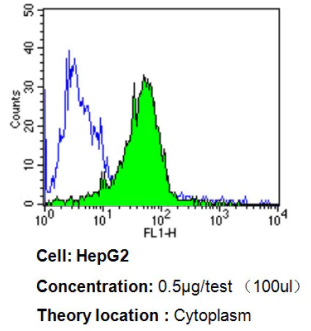
Figure 1 and Figure 2 show immunolocalization of ET-1 in human bowel using ab2786.



Immunocytochemistry/ Immunofluorescence - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

Endothelin 1 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Endothelin 1 antibody

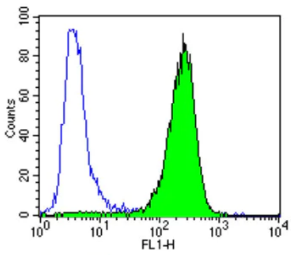
ab2786 labelling Endothelin 1 (green) in the secretion of HUVEC cells (right) compared with a negative control (left) by Immunocytochemistry/Immunofluorescence. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were incubated with the primary antibody (1:200 in 3% BSA-PBS) overnight at 4 °C. A DyLight 488-conjugated Goat anti-mouse IgG (H+L) was used as the secondary antibody. Red (phalloidin) - F-actin, Blue (DAPI) - nuclei. Images were taken at a magnification of 60x.



Flow Cytometry - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

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

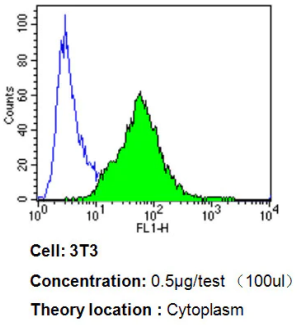
Flow cytometry analysis of Endothelin 1 showing positive staining in the cytoplasm of HepG2 cells compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of 1-5x10^6 cells/ml, fixed with 2% paraformaldehyde, washed with PBS, and incubated with ab2786 (0.5 ug/test) for 60 min at room temperature. Cells were then blocked in a solution of 2% BSA-PBS for 30 min at room temperature, incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated goat anti-mouse IgG (H+L) secondary antibody, and re-suspended in PBS for FACS analysis.



Flow Cytometry - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

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

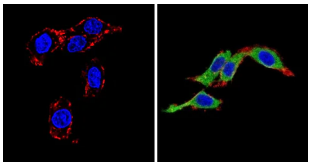
Flow cytometry analysis of Endothelin 1 showing positive staining in the cytoplasm of 293T cells compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of 1-5x10^6 cells/ml, fixed with 2% paraformaldehyde, washed with PBS, and incubated with ab2786 (0.5 ug/test) for 60 min at room temperature. Cells were then blocked in a solution of 2% BSA-PBS for 30 min at room temperature, incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated goat anti-mouse IgG (H+L) secondary antibody, and re-suspended in PBS for FACS analysis.



Flow Cytometry - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

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

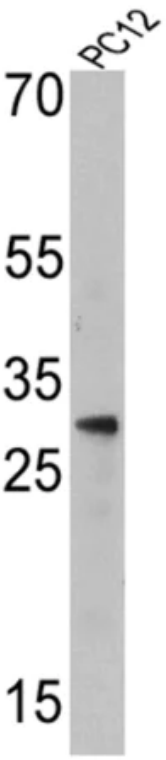
Flow cytometry analysis of Endothelin 1 showing positive staining in the cytoplasm of 3T3 cells compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of 1-5x10^6 cells/ml, fixed with 2% paraformaldehyde, washed with PBS, and incubated with ab2786 (0.5 ug/test) for 60 min at room temperature. Cells were then blocked in a solution of 2% BSA-PBS for 30 min at room temperature, incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated goat anti-mouse IgG (H+L) secondary antibody, and re-suspended in PBS for FACS analysis.



Immunocytochemistry/ Immunofluorescence - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

Endothelin 1 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Endothelin 1 antibody

ab2786 labelling Endothelin 1 (green) in the secretion of PC12 cells (right) compared with a negative control (left) by Immunocytochemistry/Immunofluorescence. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were incubated with the primary antibody (1:200 in 3% BSA-PBS) overnight at 4 °C. A DyLight 488-conjugated Goat anti-mouse IgG (H+L) was used as the secondary antibody. Red (phalloidin) - F-actin, Blue (DAPI) - nuclei. Images were taken at a magnification of 60x.



Western blot - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

All lanes:
Western blot - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786) at 1/500 dilution

All lanes:
PC12 cell lysate at 25 µg

Predicted band size: 24 kDa

Observed band size: 30 kDa

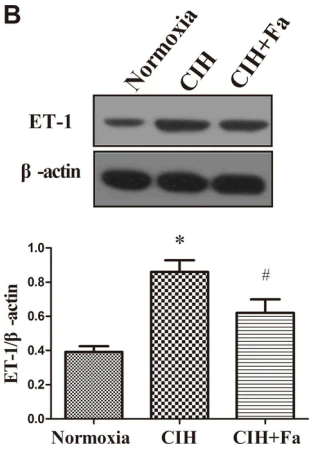


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-Endothelin 1 antibody [TR.ET.48.5] (ab2786)

Endothelin 1 Western blot staining using mouse Anti-Endothelin 1 antibody

Endothelin 1 western blot using anti-Endothelin 1 antibody [TR.ET.48.5] ab2786. Publication image and figure legend from Li, J. R., Zhao, Y. S., et al., 2018, PLoS One, PubMed 29641598.

ab2786 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab2786 please see the product overview.

Levels ET-1 in the serum and aorta when subjected to CIH.(A) ET-1 content was measured in serum from the Normoxia, CIH and CIH+Fa groups by radioimmunoassay. (B) ET-1 protein levels were measured in aortas isolated from the Normoxia, CIH and CIH + Fa groups by western blot. The results were expressed as the mean ± SE. *p < 0.05, CIH group vs Normoxia group; # p < 0.05, CIH + Fa group vs CIH group (n = 6 for each group).

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