abcam

ab2231

Anti-DDAH1 antibody

Key facts

Isotype	IgG
Host species	Goat
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human DDAH1 aa 250-300. The exact immunogen used to generate this antibody is proprietary information. Database link O94760
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.

Reactivity data

ICC

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Predicted

Species	Cow
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Predicted

Species	Cow
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	0.1-0.3 µg/mL
Notes	1 hour primary incubation is recommended for this product.

Predicted

Species	Cow
Dilution info	-
Notes	-

Target data

See full target information DDAH1

Function	Hydrolyzes N(G),N(G)-dimethyl-L-arginine (ADMA) and N(G)-monomethyl-L-arginine (MMA) which act as inhibitors of NOS. Has therefore a role in the regulation of nitric oxide generation.

Storage

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	The DDAH1 protein also known as dimethylarginine dimethylaminohydrolase 1 plays an important role in regulating nitric oxide (NO) production by metabolizing asymmetric dimethylarginine (ADMA) an inhibitor of nitric oxide synthase. This enzyme has a molecular mass of approximately 31 kDa and is widely expressed in various tissues including liver kidney and brain. It impacts the cardiovascular system by controlling ADMA levels which influence endothelial function and vascular tone.
Biological function summary	The actions of DDAH1 contribute significantly to cardiovascular homeostasis. Increased levels of ADMA resulting from impaired DDAH1 activity can lead to decreased NO production impacting cardiovascular health. DDAH1 does not form part of a complex but acts individually to affect NO synthesis through ADMA degradation. Understanding the biological roles of DDAH1 helps to appreciate how NO-mediated processes are tightly regulated within the body and its impact on vascular health.
Pathways	DDAH1 participates actively in the nitric oxide synthesis pathway. It modulates the levels of endothelial nitric oxide synthase (eNOS) by regulating ADMA which serves as an eNOS inhibitor. Through this pathway DDAH1 ensures a balance between NO production and regulation supporting vascular homeostasis and blood pressure control. DDAH1 shares functional connections with proteins like eNOS which are central to maintaining vascular health and preventing endothelial dysfunction.
Associated diseases and disorders	Dysfunction of DDAH1 links closely to cardiovascular diseases and conditions like atherosclerosis. Elevated ADMA levels resulting from compromised DDAH1 activity contribute to endothelial dysfunction a precursor to atherosclerosis. The interconnected role with eNOS highlights DDAH1's importance in managing ADMA concentrations as imbalances can exacerbate disease progression. Investigating

the influence of DDAH1 on these diseases offers insights into potential therapeutic targets for cardiovascular pathologies.

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

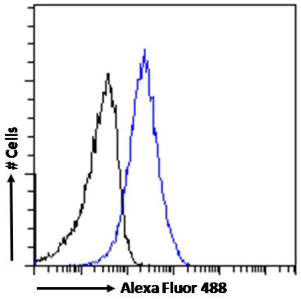
We do not recommend this combination. It is not covered by our product promise.

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.

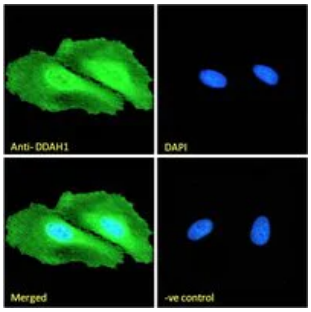
5 product images



Flow Cytometry - Anti-DDAH1 antibody (ab2231)

DDAH1 Flow Cytometry staining using goat Anti-DDAH1 antibody

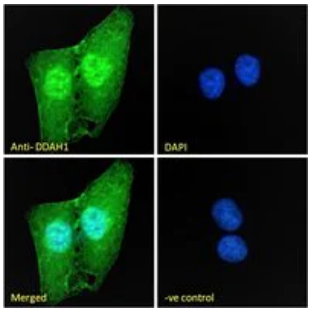
Flow cytometric analysis of paraformaldehyde fixed HeLa cells (blue line), permeabilized with 0.5% Triton using ab2231 at 10µg/ml followed by Alexa Fluor 488 secondary antibody at 1µg/ml. IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.



Immunocytochemistry - Anti-DDAH1 antibody (ab2231)

DDAH1 Immunocytochemistry staining using goat Anti-DDAH1 antibody

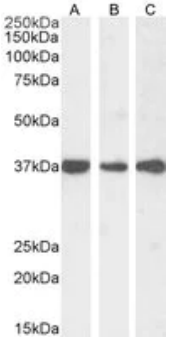
Immunofluorescence analysis of paraformaldehyde fixed HeLa cells, permeabilized with 0.15% Triton using ab2231 at 10ug/ml followed by Alexa Fluor 488 secondary antibody at 2ug/ml, showing nuclear and cytoplasmic staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG followed by Alexa Fluor 488 secondary antibody.



Immunocytochemistry - Anti-DDAH1 antibody (ab2231)

DDAH1 Immunocytochemistry staining using goat Anti-DDAH1 antibody

Immunofluorescence analysis of paraformaldehyde fixed U2OS cells, permeabilized with 0.15% Triton using ab2231 at 10ug/ml followed by Alexa Fluor 488 secondary antibody at 2ug/ml, showing nuclear and cytoplasmic staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG followed by Alexa Fluor 488 secondary antibody.



Western blot - Anti-DDAH1 antibody (ab2231)

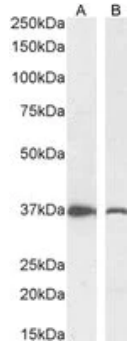
All lanes:
Western blot - Anti-DDAH1 antibody (ab2231) at 0.3 µg/mL

Lane 1:
Human cerebellum

Lane 2:
Human kidney

Lane 3:
Human testes

Predicted band size: 31 kDa



Western blot - Anti-DDAH1 antibody (ab2231)

All lanes:
Western blot - Anti-DDAH1 antibody (ab2231) at 0.3 µg/mL

Lane 1:
HepG2 cell lysate

Lane 2:
LnCaP cell lysate

Predicted band size: 31 kDa

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