SANTA CRUZ BIOTECHNOLOGY, INC.

DDAH I (D-6): sc-514841

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DDAH, a dimethylarginine dimethylaminohydrolase, hydrolyzes dimethyl arginine (ADMA) and monomethyl arginine (MMA), both inhibitors of nitric oxide synthases, and may be involved in *in vivo* modulation of nitric oxide production. Impairment of DDAH causes ADMA accumulation and a reduction in cGMP generation. DDAH II, the predominant DDAH isoform in endothelial cells, facilitates the induction of nitric oxide synthesis by all-*trans*-Retinoic acid (atRA). DDAH proteins are highly expressed in colon, kidney, stomach and liver tissues.

REFERENCES

1. Nakagomi, S., et al. 1999. Dimethylarginine dimethylaminohydrolase (DDAH) as a nerve-injury-associated molecule: mRNA localization in the rat brain and its coincident upregulation with neuronal NO synthase (nNOS) in axotomized motoneurons. Eur. J. Neurosci. 11: 2160-2166.
2. Knipp, M., et al. 2001. Structural and functional characterization of the Zn(II) site in dimethylargininase-1 (DDAH I) from bovine brain. Zn(II) release activates DDAH I. J. Biol. Chem. 276: 40449-40456.
3. Lin, K.Y., et al. 2002. Impaired nitric oxide synthase pathway in diabetes mellitus: role of asymmetric dimethylarginine and dimethylaminohydrolase. Circulation 106: 987-992.
4. Achan, V., et al. 2002. All-*trans*-retinoic acid increases nitric oxide synthesis by endothelial cells: a role for the induction of dimethylaminohydrolase. Circ. Res. 90: 764-769.

CHROMOSOMAL LOCATION

Genetic locus: DDAH1 (human) mapping to 1p22.3; Ddah1 (mouse) mapping to 3 H2.

SOURCE

DDAH I (D-6) is a mouse monoclonal antibody raised against amino acids 167-236 mapping within an internal region of DDAH I of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DDAH I (D-6) is available conjugated to agarose (sc-514841 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514841 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514841 PE), fluorescein (sc-514841 FITC), Alexa Fluor® 488 (sc-514841 AF488), Alexa Fluor® 546 (sc-514841 AF546), Alexa Fluor® 594 (sc-514841 AF594) or Alexa Fluor® 647 (sc-514841 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514841 AF680) or Alexa Fluor® 790 (sc-514841 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

DDAH I (D-6) is recommended for detection of DDAH I of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DDAH I siRNA (h): sc-105276, DDAH I siRNA (m): sc-142914, DDAH I shRNA Plasmid (h): sc-105276-SH, DDAH I shRNA Plasmid (m): sc-142914-SH, DDAH I shRNA (h) Lentiviral Particles: sc-105276-V and DDAH I shRNA (m) Lentiviral Particles: sc-142914-V.

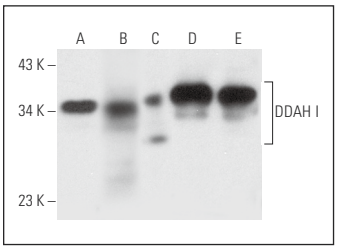
Molecular Weight of DDAH I: 31 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, CCRF-CEM cell lysate: sc-2225 or mouse brain extract: sc-2253.

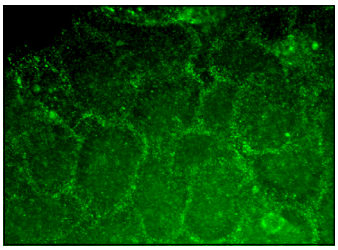
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DDAH I (D-6): sc-514841. Western blot analysis of DDAH I expression in MCF7 (**A**) and CCRF-CEM (**B**) whole cell lysates and human heart (**C**), human cerebral cortex (**D**) and mouse brain (**E**) tissue extracts.



DDAH I (D-6): sc-514841. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Hamilton, M.J., et al. 2020. HOTAIRM1 lncRNA is downregulated in clear cell renal cell carcinoma and inhibits the hypoxia pathway. Cancer Lett. 472: 50-58.
2. Hsu, M.H., et al. 2021. Resveratrol prevented spatial deficits and rescued disarrayed hippocampus asymmetric dimethylarginine and brain-derived neurotrophic factor levels in young rats with increased circulating asymmetric dimethylarginine. Neuroreport 32: 1091-1099.

RESEARCH USE

For research use only, not for use in diagnostic procedures.