SANTA CRUZ BIOTECHNOLOGY, INC.

AdoMetDC (E-6): sc-166970

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Polyamines are compounds that have two or more primary amino groups and are important to cellular processes, such as cellular growth, proliferation and tumor promotion. AdoMetDC (adenosylmethionine decarboxylase 1), also known as S-adenosylmethionine decarboxylase proenzyme (SAMDC) or AMD1, is a 334 amino acid protein which is an important intermediate enzyme in polyamine biosynthesis pathways. Using a pyruvoyl group as a cofactor, AdoMetDC catalyzes the conversion of S-adenosyl-L-methionine to (5-deoxy-5-adenosyl)(3-aminopropyl)-methylsulfonium salt and carbon dioxide. AdoMetDC is synthesized as an inactive proenzyme that undergoes self-maturation to form two non-identical subunits designated α and β. Active AdoMetDC forms a heterotetramer of two α chains and two β chains. Both AdoMetDC proenzyme processing and mature AdoMetDC catalytic activity are stimulated by putrescine, while catalytic activity is inhibited by iodoacetic acid.

REFERENCES

1. Ekstrom, J.L., et al. 2001. Structure of a human S-adenosylmethionine decarboxylase self-processing ester intermediate and mechanism of putrescine stimulation of processing as revealed by the H243A mutant. Biochemistry 40: 9495-9504.
2. Tolbert, W.D., et al. 2003. Mechanism of human S-adenosylmethionine decarboxylase proenzyme processing as revealed by the structure of the S68A mutant. Biochemistry 42: 2386-2395.
3. Yerlikaya, A. and Stanley, B.A. 2004. S-adenosylmethionine decarboxylase degradation by the 26S Proteasome is accelerated by substrate-mediated transamination. J. Biol. Chem. 279: 12469-12478.

CHROMOSOMAL LOCATION

Genetic locus: AMD1 (human) mapping to 6q21; Amd1 (mouse) mapping to 10 B1.

SOURCE

AdoMetDC (E-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 5-219 near the N-terminus of AdoMetDC 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.

AdoMetDC (E-6) is available conjugated to agarose (sc-166970 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166970 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166970 PE), fluorescein (sc-166970 FITC), Alexa Fluor® 488 (sc-166970 AF488), Alexa Fluor® 546 (sc-166970 AF546), Alexa Fluor® 594 (sc-166970 AF594) or Alexa Fluor® 647 (sc-166970 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166970 AF680) or Alexa Fluor® 790 (sc-166970 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

AdoMetDC (E-6) is recommended for detection of AdoMetDC 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 AdoMetDC siRNA (h): sc-95296, AdoMetDC siRNA (m): sc-140886, AdoMetDC shRNA Plasmid (h): sc-95296-SH, AdoMetDC shRNA Plasmid (m): sc-140886-SH, AdoMetDC shRNA (h) Lentiviral Particles: sc-95296-V and AdoMetDC shRNA (m) Lentiviral Particles: sc-140886-V.

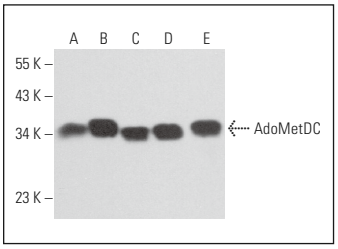
Molecular Weight of AdoMetDC proenzyme: 42 kDa.

Molecular Weight of AdoMetDC α: 32 kDa.

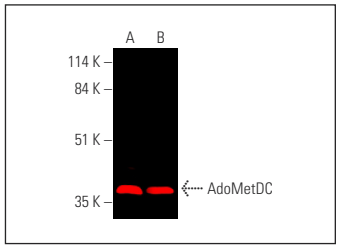
Molecular Weight of AdoMetDC β: 10 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or KNRK whole cell lysate: sc-2214.

DATA



AdoMetDC (E-6): sc-166970. Western blot analysis of AdoMetDC expression in HeLa (**A**), NIH/3T3 (**B**), SW480 (**C**), MCF7 (**D**) and KNRK (**E**) whole cell lysates.



AdoMetDC (E-6): sc-166970. Near-infrared western blot analysis of AdoMetDC expression in NIH/3T3 (**A**) and KNRK (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Kemaladewi, D.U., et al. 2018. Increased polyamines as protective disease modifiers in congenital muscular dystrophy. Hum. Mol. Genet. 27: 1905-1912.
2. López-Contreras, F., et al. 2019. Searching for drug synergy against cancer through polyamine metabolism impairment: insight into the metabolic effect of indomethacin on lung cancer cells. Front. Pharmacol. 10: 1670.
3. Tabbaa, M., et al. 2021. The regulation of polyamine pathway proteins in models of skeletal muscle hypertrophy and atrophy: a potential role for mTORC1. Am. J. Physiol., Cell Physiol. 320: C987-C999.

STORAGE

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