SANTA CRUZ BIOTECHNOLOGY, INC.

AdoMetDC (A-8): sc-515656

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.
4. Lam, K., et al. 2005. HSG cells differentiated by culture on extracellular matrix involves induction of S-adenosylmethione decarboxylase and ornithine decarboxylase. J. Cell. Physiol. 203: 353-361.
5. Kim, J.S., et al. 2006. S-Adenosylmethionine decarboxylase partially regulates cell growth of HL-60 cells by controlling the intracellular ROS level: early senescence and sensitization to gamma-radiation. Arch. Biochem. Biophys. 456: 58-70.

CHROMOSOMAL LOCATION

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

SOURCE

AdoMetDC (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 25-41 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.

Blocking peptide available for competition studies, sc-515656 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

AdoMetDC (A-8) 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.

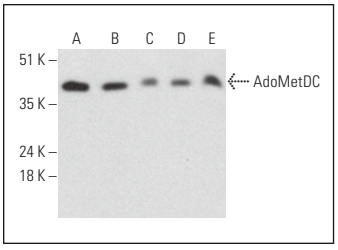
Molecular Weight of AdoMetDC β: 10 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, IMR-32 cell lysate: sc-2409 or MCF7 whole cell lysate: sc-2206.

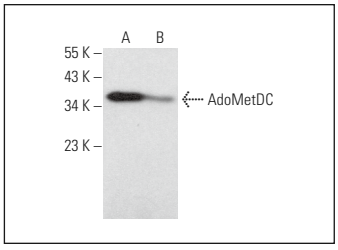
RECOMMENDED SUPPORT REAGENTS

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



AdoMetDC (A-8): sc-515656. Western blot analysis of AdoMetDC expression in IMR-32 (**A**), HeLa (**B**), SK-N-MC (**C**), MCF7 (**D**) and SW480 (**E**) whole cell lysates.



AdoMetDC (A-8): sc-515656. Western blot analysis of AdoMetDC expression in IMR-32 (**A**) and HeLa (**B**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

STORAGE

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

RESEARCH USE

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