SANTA CRUZ BIOTECHNOLOGY, INC.

AICAR transformylase (F38 P7 H9): sc-53612

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

The bifunctional purine biosynthesis protein ATIC (also designated PURH) contains AICAR transformylase and IMP cyclohydrolase activities. AICAR (5-aminoimidazole-4-carboxamide ribonucleotide) transformylase catalyzes the second to last step in purine biosynthesis, playing an important role in the production of nucleotides and IMP. Defects in the ATIC transformylase gene can cause AICA-rebsuria, also designated AICA-ribosiduria, an inborn error in purine biosynthesis that is neurologically cataclysmic. Individuals with AICA-rebosuria accumulate AICA-riboside, also designated ZMP, and its derivatives in erythrocytes and fibroblasts. Patients also excrete very large amounts of AICA-riboside in the urine. Mental retardation, epilepsy, dysmorphic features and congenital blindness are all symptoms of this disease.

CHROMOSOMAL LOCATION

Genetic locus: ATIC (human) mapping to 2q35; Atic (mouse) mapping to 1 C3.

SOURCE

AICAR transformylase (F38 P7 H9) is a mouse monoclonal antibody raised against amino acids 582-592 of AICAR transformylase 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.

AICAR transformylase (F38 P7 H9) is available conjugated to agarose (sc-53612 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53612 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53612 PE), fluorescein (sc-53612 FITC), Alexa Fluor® 488 (sc-53612 AF488), Alexa Fluor® 546 (sc-53612 AF546), Alexa Fluor® 594 (sc-53612 AF594) or Alexa Fluor® 647 (sc-53612 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53612 AF680) or Alexa Fluor® 790 (sc-53612 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

AICAR transformylase (F38 P7 H9) is recommended for detection of AICAR transformylase of mouse, rat, human, *Drosophila melanogaster* and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for AICAR transformylase siRNA (h): sc-60139, AICAR transformylase siRNA (m): sc-60140, AICAR transformylase shRNA Plasmid (h): sc-60139-SH, AICAR transformylase shRNA Plasmid (m): sc-60140-SH, AICAR transformylase shRNA (h) Lentiviral Particles: sc-60139-V and AICAR transformylase shRNA (m) Lentiviral Particles: sc-60140-V.

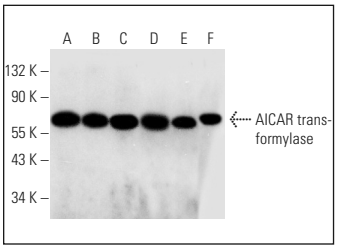
Molecular Weight of AICAR transformylase: 65 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or CCRF-CEM cell lysate: sc-2225.

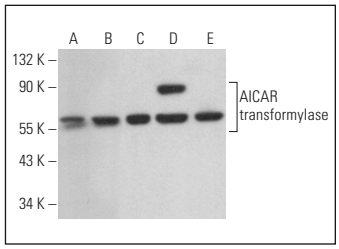
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



AICAR transformylase (F38 P7 H9): sc-53612. Western blot analysis of AICAR transformylase expression in HCT-116 (**A**), HeLa (**B**), CCRF-CEM (**C**), Hep G2 (**D**), HEK293 (**E**) and A-431 (**F**) whole cell lysates.



AICAR transformylase (F38 P7 H9): sc-53612. Western blot analysis of AICAR transformylase expression in HeLa (**A**), HT-29 (**B**), Neuro-2A (**C**), A-10 (**D**) and RPE-J (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mairinger, F., et al. 2013. Reduced folate carrier and folylpolyglutamate synthetase, but not thymidylate synthase predict survival in pemetrexed-treated patients suffering from malignant pleural mesothelioma. J. Thorac. Oncol. 8: 644-653.
2. Park, D.I., et al. 2016. Purine and pyrimidine metabolism: convergent evidence on chronic antidepressant treatment response in mice and humans. Sci. Rep. 6: 35317.
3. Zhou, Q., et al. 2020. Targeting CLK3 inhibits the progression of cholangiocarcinoma by reprogramming nucleotide metabolism. J. Exp. Med. 217: e20191779.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.