SANTA CRUZ BIOTECHNOLOGY, INC.

NT5C3 (E-8): sc-390782

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Nucleotidases are hydrolytic enzymes that catalyze the hydrolysis of nucleotides into phosphates and nucleosides. NT5C3 (5'-nucleotidase, cytosolic III), also known as P5N1 or UMPH1, is a 336 amino acid protein that exists as multiple alternatively spliced isoforms which localize to either the cytoplasm or the endoplasmic reticulum. Expressed in an isoform-specific manner in lymphocytes and reticulocytes, NT5C3 belongs to the pyrimidine 5'-nucleotidase family and exists as a monomer which acts as both a nucleotidase and a phosphotransferase, effectively catalyzing the conversion of a 5'-ribonucleotide to a ribonucleoside and a free phosphate. Defects in the gene encoding NT5C3 are the cause of P5N deficiency, an autosomal recessive disorder that is associated with hemolytic anemia and is characterized by lead poisoning and learning difficulties.

REFERENCES

1. Amici, A., et al. 1994. Homogeneous pyrimidine nucleotidase from human erythrocytes: enzymic and molecular properties. Biochem. J. 304: 987-992.
2. Amici, A., et al. 2000. Human erythrocyte pyrimidine 5-nucleotidase, PN-I, is identical to p36, a protein associated to lupus inclusion formation in response to α-interferon. Blood 96: 1596-1598.
3. Balta, G., et al. 2003. Molecular characterization of Turkish patients with pyrimidine 5' nucleotidase-I deficiency. Blood 102: 1900-1903.
4. Rees, D.C., et al. 2003. Pyrimidine 5' nucleotidase deficiency. Br. J. Haematol. 120: 375-383.

CHROMOSOMAL LOCATION

Genetic locus: NT5C3A (human) mapping to 7p14.3; Nt5c3 (mouse) mapping to 6 B3.

SOURCE

NT5C3 (E-8) is a mouse monoclonal antibody raised against amino acids 94-202 mapping within an internal region of NT5C3L of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NT5C3 (E-8) is available conjugated to agarose (sc-390782 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390782 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390782 PE), fluorescein (sc-390782 FITC), Alexa Fluor® 488 (sc-390782 AF488), Alexa Fluor® 546 (sc-390782 AF546), Alexa Fluor® 594 (sc-390782 AF594) or Alexa Fluor® 647 (sc-390782 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390782 AF680) or Alexa Fluor® 790 (sc-390782 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

NT5C3 (E-8) is recommended for detection of NT5C3L 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 NT5C3 siRNA (h): sc-89592, NT5C3 siRNA (m): sc-106313, NT5C3 shRNA Plasmid (h): sc-89592-SH, NT5C3 shRNA Plasmid (m): sc-106313-SH, NT5C3 shRNA (h) Lentiviral Particles: sc-89592-V and NT5C3 shRNA (m) Lentiviral Particles: sc-106313-V.

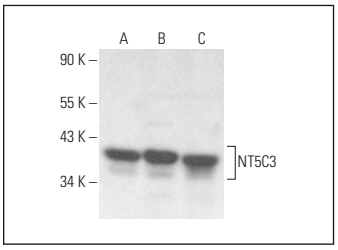
Molecular Weight of NT5C3: 38 kDa.

Positive Controls: HeLa whole cell lysate: 2200, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

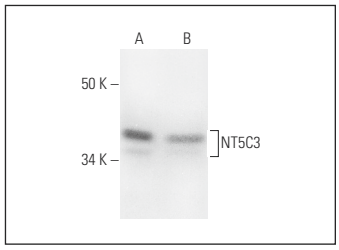
RECOMMENDED SUPPORT REAGENTS

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



NT5C3 (E-8): sc-390782. Western blot analysis of NT5C3 expression in Jurkat (**A**), HeLa (**B**) and A549 (**C**) whole cell lysates.



NT5C3 (E-8): sc-390782. Western blot analysis of NT5C3 expression in Jurkat (**A**) and Hep G2 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kubacka, D., et al. 2022. Substrate-based design of cytosolic nucleotidase IIIB inhibitors and structural insights into inhibition mechanism. Pharmaceuticals 15: 554.
2. Bogusławska, D.M., et al. 2022. A rare mutation (p.F149del) of the NT5C3A gene is associated with pyrimidine 5'-nucleotidase deficiency. Cell. Mol. Biol. Lett. 27: 104.

RESEARCH USE

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