

NT5C1A (C-9): sc-377244

BACKGROUND

NT5C1A (5'-nucleotidase cytosolic 1A) is a 365 amino acid protein belonging to the 5'-nucleotidase type 3 family. Activated by ADP, NT5C1A uses magnesium and water to dephosphorylate the 5' and 2'(3')-phosphates of deoxyribonucleotides to produce a ribonucleoside and a phosphate. Localized to the cytoplasm, NT5C1A has broad substrate specificity. NT5C1A also assists in the regulation of adenosine levels in heart during ischemia and hypoxia. The gene that encodes NT5C1A maps to chromosome four, a chromosome containing nearly 900 genes, representing approximately 6% of the human genome. Chromosome 4 reportedly contains the largest gene deserts (regions of the genome with no protein encoding genes) and has one of the two lowest recombination frequencies of the human chromosomes.

REFERENCES

1. Onishi, M., et al. 2004. Gene structure and evolution of testicular haploid germ cell-specific genes, *Oxct2a* and *Oxct2b*. *Genomics* 83: 647-657.
2. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
3. Ipata, P.L., et al. 2006. Recent advances in structure and function of cytosolic IMP-GMP specific 5'-nucleotidase II (cN-II). *Purinergic Signal*. 2: 669-675.
4. Lechward, K., et al. 2009. Expression of cytosolic 5' nucleotidase does not correlate with expression of oxidative metabolism marker: myoglobine in human skeletal muscles. *Acta Biochim. Biophys. Sin.* 41: 280-284.
5. Meijer, P., et al. 2009. Rosuvastatin increases extracellular adenosine formation in humans *in vivo*: a new perspective on cardiovascular protection. *Arterioscler. Thromb. Vasc. Biol.* 29: 963-968.

CHROMOSOMAL LOCATION

Genetic locus: NT5C1A (human) mapping to 1p34.2; *Nt5c1a* (mouse) mapping to 4 D2.2.

SOURCE

NT5C1A (C-9) is a mouse monoclonal antibody raised against a peptide mapping within an internal region of NT5C1A of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-377244 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

NT5C1A (C-9) is recommended for detection of NT5C1A 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).

NT5C1A (C-9) is also recommended for detection of NT5C1A in additional species, including equine and canine.

Suitable for use as control antibody for NT5C1A siRNA (h): sc-78565, NT5C1A siRNA (m): sc-150079, NT5C1A shRNA Plasmid (h): sc-78565-SH, NT5C1A shRNA Plasmid (m): sc-150079-SH, NT5C1A shRNA (h) Lentiviral Particles: sc-78565-V and NT5C1A shRNA (m) Lentiviral Particles: sc-150079-V.

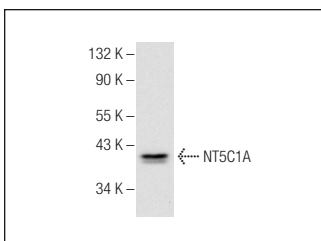
Molecular Weight of NT5C1A: 40 kDa.

Positive Controls: A549 cell lysate: sc-2413.

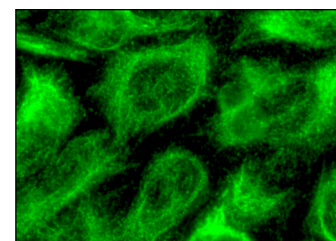
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



NT5C1A (C-9): sc-377244. Western blot analysis of NT5C1A expression in A549 whole cell lysate.



NT5C1A (C-9): sc-377244. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Lopez, R., et al. 2020. Impaired myocardial energetics causes mechanical dysfunction in decompensated failing hearts. *Function* 1: zqaa018.

PROTOCOLS

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