SANTA CRUZ BIOTECHNOLOGY, INC.

NaS-1 (C-13): sc-160563

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The Power to Question

BACKGROUND

NaS-1, also known as SLC13A1 (solute carrier family 13 (sodium/sulfate symporters), member 1), renal sodium/sulfate cotransporter, hNaSi-1 or NASI1, is a 595 amino acid multi-pass membrane protein that is highly expressed in kidney, where it regulates sulfate reabsorption. A member of the SLC13A transporter (TC 2.A.47) family and NADC subfamily, NaS-1 is encoded by a gene that maps to human chromosome 7q31.32. Chromosome 7 houses over 1,000 genes and comprises nearly 5% of the human genome. Chromosome 7 has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome. The deletion of a portion of the q arm of chromosome 7 is associated with Williams-Beuren syndrome, a condition characterized by mild mental retardation, an unusual comfort and friendliness with strangers and an elfin appearance. Deletions of portions of the q arm of chromosome 7 are also seen in a number of myeloid disorders including cases of acute myelogenous leukemia and myelodysplasia.

REFERENCES

1. Tsipouras, P., et al. 1983. Restriction fragment length polymorphism associated with the pro α 2(I) gene of human type I procollagen. Application to a family with an autosomal dominant form of osteogenesis imperfecta. J. Clin. Invest. 72: 1262-1267.
2. Liang, H., et al. 1998. Molecular anatomy of chromosome 7q deletions in myeloid neoplasms: evidence for multiple critical loci. Proc. Natl. Acad. Sci. USA 95: 3781-3785.
3. Lee, A., et al. 2000. The human renal sodium sulfate cotransporter (SLC13A1; hNaSi-1) cDNA and gene: organization, chromosomal localization, and functional characterization. Genomics 70: 354-363.
4. Li, H., et al. 2003. Mutagenesis of the N-glycosylation site of hNaSi-1 reduces transport activity. Am. J. Physiol., Cell Physiol. 285: C1188-C1196.
5. Li, H., et al. 2003. Serines 260 and 288 are involved in sulfate transport by hNaSi-1. J. Biol. Chem. 278: 37204-37212.
6. Dawson, P.A., et al. 2003. Hyposulfatemia, growth retardation, reduced fertility, and seizures in mice lacking a functional NaSi-1 gene. Proc. Natl. Acad. Sci. USA 100: 13704-13709.
7. Osborne, L.R., et al. 2006. Williams-Beuren syndrome diagnosis using fluorescence *in situ* hybridization. Methods Mol. Med. 126: 113-128.

CHROMOSOMAL LOCATION

Genetic locus: SLC13A1 (human) mapping to 7q31.32.

SOURCE

NaS-1 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NaS-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-160563 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NaS-1 (C-13) is recommended for detection of NaS-1 of human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NaS-1 siRNA (h): sc-89635, NaS-1 shRNA Plasmid (h): sc-89635-SH and NaS-1 shRNA (h) Lentiviral Particles: sc-89635-V.

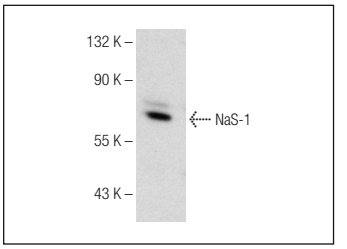
Molecular Weight of NaS-1: 66 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NaS-1 (C-13): sc-160563. Western blot analysis of NaS-1 expression in Caki-1 whole cell lysate.

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 or our catalog for detailed protocols and support products.