SANTA CRUZ BIOTECHNOLOGY, INC.

NIS (D-16): sc-48052

BACKGROUND

The sodium/iodide symporter (NIS) is an integral plasma membrane glycoprotein that mediates active iodide transport in the thyroid and other tissues, including salivary glands, gastric mucosa and lactating mammary gland. In the lactating mammary gland, NIS transports iodide into the milk, thereby allowing the nursing newborn to use the iodide for thyroid hormone biosynthesis. NIS is expressed in some breast cancers, but exhibits decreased expression in the majority of thyroid cancers, most likely due to alterations in the binding activity of AP2 and Sp1 transcription factors to the NIS promoter. NIS is a prerequisite for radioiodide treatment of thyroid cancer and a promising diagnostic and therapeutic tool for breast cancer.

REFERENCES

1. Paulini, K. and Mohr, W. 1975. Hormone-dependent polyploidy in the glandula orbitalis externa and glandula infraorbitalis of animals of different age. Beitr. Pathol. 156: 65-74.
2. Boismare, F., et al. 1977. The treatment, by imipramine, of the hemodynamic, functional and biochemical consequences, of an experimental cranio-cervical trauma in rats. C. R. Seances Soc. Biol. Fil. 170: 1110-1117.
3. Partona, F., et al. 1978. Filariasis in West Kalimantan (Borneo), Indonesia. Southeast Asian J. Trop. Med. Public Health 8: 459-463.
4. Osteen, K.G. and Mills, T.M. 1980. Serum LH and FSH levels in the pregnant rabbit. Proc. Soc. Exp. Biol. Med. 162: 454-457.
5. Kogai, T., et al. 2005. Differential regulation of sodium/iodide symporter gene expression by nuclear receptor ligands in MCF-7 breast cancer cells. Endocrinology 146: 3059-3069.

CHROMOSOMAL LOCATION

Genetic locus: SLC5A5 (human) mapping to 19p13.11; Slc5a5 (mouse) mapping to 8 B3.3.

SOURCE

NIS (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of NIS of mouse 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, ready P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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

NIS (D-16) is recommended for detection of NIS of mouse, rat and 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 NIS siRNA (h): sc-61199, NIS siRNA (m): sc-61200, NIS shRNA Plasmid (h): sc-61199-SH, NIS shRNA Plasmid (m): sc-61200-SH, NIS shRNA (h) Lentiviral Particles: sc-61199-V and NIS shRNA (m) Lentiviral Particles: sc-61200-V.

Molecular Weight of non-glycosylated NIS: 50 kDa.

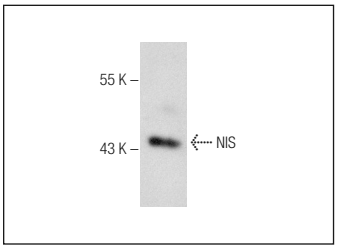
Molecular Weight of glycosylated NIS: 87-110 kDa.

Positive Controls: TT whole cell lysate: sc-364195.

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



NIS (D-16): sc-48052. Western blot analysis of NIS expression in TT whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lof, C., et al. 2012. Communication between the calcium and cAMP pathways regulate the expression of the TSH receptor: TRPC2 in the center of action. Mol. Endocrinol. 26: 2046-2057.