

NIPSNAP2 siRNA (m): sc-149979

BACKGROUND

NIPSNAP2, also known as GBAS (glioblastoma amplified sequence), is a 286 amino acid protein that is abundantly expressed in heart and skeletal muscle. Belonging to the NIPSNAP family, NIPSNAP2 may be involved in vesicular transport. NIPSNAP2 contains a signal peptide, a transmembrane domain and two tyrosine phosphorylation sites. NIPSNAP2 is encoded by a gene mapping to human chromosome 7p11.2. Chromosomal region 7p12 is amplified in approximately 40% of glioblastomas, the most common and malignant form of central nervous system tumor. Human chromosome 7 houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to Osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Seroussi, E., et al. 1998. Characterization of the human NIPSNAP1 gene from 22q12: a member of a novel gene family. *Gene* 212: 13-20.
2. Wang, X.Y., et al. 1998. GBAS, a novel gene encoding a protein with tyrosine phosphorylation sites and a transmembrane domain, is co-amplified with EGFR. *Genomics* 49: 448-451.
3. Lopez-Gines, C., et al. 2005. Association of chromosome 7, chromosome 10 and EGFR gene amplification in glioblastoma multiforme. *Clin. Neuropathol.* 24: 209-218.
4. Ruano, Y., et al. 2006. Identification of novel candidate target genes in amplicons of glioblastoma multiforme tumors detected by expression and CGH microarray profiling. *Mol. Cancer* 5: 39.
5. Lo, K.C., et al. 2007. Candidate glioblastoma development gene identification using concordance between copy number abnormalities and gene expression level changes. *Genes Chromosomes Cancer* 46: 875-894.
6. Necesalová, E., et al. 2007. Incidence of the main genetic markers in glioblastoma multiforme is independent of tumor topology. *Neoplasma* 54: 212-218.

CHROMOSOMAL LOCATION

Genetic locus: Gbas (mouse) mapping to 5 G1.3.

PRODUCT

NIPSNAP2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NIPSNAP2 shRNA Plasmid (m): sc-149979-SH and NIPSNAP2 shRNA (m) Lentiviral Particles: sc-149979-V as alternate gene silencing products.

For independent verification of NIPSNAP2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149979A, sc-149979B and sc-149979C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NIPSNAP2 siRNA (m) is recommended for the inhibition of NIPSNAP2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

NIPSNAP1/2 (F-4): sc-393201 is recommended as a control antibody for monitoring of NIPSNAP2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NIPSNAP2 gene expression knockdown using RT-PCR Primer: NIPSNAP2 (m)-PR: sc-149979-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Brittain, J.M., et al. 2012. Regulation of CREB signaling through L-type Ca²⁺ channels by Nipsnap-2. *Channels* 6: 94-102.

RESEARCH USE

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