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SANTA CRUZ BIOTECHNOLOGY, INC.

Niban siRNA (m): sc-149967

BACKGROUND

Meaning "second" in Japanese, Niban, also known as FAM129A and Cell growth-inhibiting gene 39 protein, is a 928 amino acid cytoplasmic protein that regulates phosphoryation of many proteins that are involved in translation regulation, such as eIF2α, 4E-BP1 and p70 S6 kinase α. Since it ultimately functions as as activator of proteins, Niban has been implicated as a tumor marker for renal carcinoma, thyroid cancer and head and neck squamous cell carcinoma. Endoplasmic reticular stress induced in Niban knockout mice leads to upregulation of eIF2α and decreased phosphorylation of p70 S6 kinase α and 4E-BP1. Niban suppression eventually leads to apoptosis, therefore illustrating its involvement in the modulation of cell death signaling by regulating translation.

REFERENCES

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2. Hino, O. 2004. Multistep renal carcinogenesis in the Eker (Tsc 2 gene mutant) rat model. Curr. Mol. Med. 4: 807-811.
3. Adachi, H., et al. 2004. Niban gene is commonly expressed in the renal tumors: a new candidate marker for renal carcinogenesis. Oncogene 23: 3495-3500.
4. Kannangai, R., et al. 2005. Hepatic angiomyolipoma and hepatic stellate cells share a similar gene expression profile. Hum. Pathol. 36: 341-347.
5. Matsumoto, F., et al. 2006. A novel tumor marker, Niban, is expressed in subsets of thyroid tumors and Hashimoto's thyroiditis. Hum. Pathol. 37: 1592-1600.
6. Sun, G.D., et al. 2007. The endoplasmic reticulum stress-inducible protein Niban regulates eIF2α and S6K1/4E-BP1 phosphorylation. Biochem. Biophys. Res. Commun. 360: 181-187.
7. Ito, S., et al. 2010. Frequent expression of Niban in head and neck squamous cell carcinoma and squamous dysplasia. Head Neck 32: 96-103.

CHROMOSOMAL LOCATION

Genetic locus: Fam129a (mouse) mapping to 1 G2.

PRODUCT

Niban 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Niban shRNA Plasmid (m): sc-149967-SH and Niban shRNA (m) Lentiviral Particles: sc-149967-V as alternate gene silencing products.

For independent verification of Niban (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-149967A, sc-149967B and sc-149967C.

RESEARCH USE

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Niban siRNA (m) is recommended for the inhibition of Niban 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 µM in 66 µl. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Niban gene expression knockdown using RT-PCR Primer: Niban (m)-PR: sc-149967-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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