SANTA CRUZ BIOTECHNOLOGY, INC.

GAS41 siRNA (m): sc-145334

BACKGROUND

Gene amplification is associated with tumor stage and progression in human gliomas. Several amplified loci are identified and comprise multiple genes. The glioma amplified sequence 41 (GAS41) is an evolutionarily conserved eukaryotic protein found in diverse species. GAS41 is related to the AF-9 and ENL proteins, which are putative transcription factors in some acute leukemias, and interacts with a component of the nuclear matrix, NuMA, in interphase cells. GAS41 has a dotted staining pattern in interphase nuclei and a uniform distribution in mitotic cells. GAS41 is ubiquitously expressed, with the highest levels of expression in human brain. In neuroblastoma, GAS41 is located in the nucleoli, but not in the nucleoplasm. GAS41 also binds to the MLL fusion partner AF-10, which is involved in two distinct chromosomal translocations associated with hematologic malignancy. In addition, GAS41 interacts with INI1 (integrase interactor 1), which is a human homolog of the yeast Snf5 protein, a component of the SWI/SNF complex. The GAS41 gene maps to human chromosome 12q15.

REFERENCES

1. Fischer, U., et al. 1996. Twelve amplified and expressed genes localized in a single domain in glioma. Hum. Genet. 98: 625-628.
2. Gracia, E., et al. 1996. Isolation of genes amplified in human cancers by microdissection mediated cDNA capture. Hum. Mol. Genet. 5: 595-600.
3. Fischer, U., et al. 1997. Cloning of a novel transcription factor-like gene amplified in human glioma including astrocytoma grade I. Hum. Mol. Genet. 6: 1817-1822.
4. Harborth, J., et al. 2000. GAS41, a highly conserved protein in eukaryotic nuclei, binds to NuMA. J. Biol. Chem. 275: 31979-31985.
5. Munnia, A., et al. 2001. Expression, cellular distribution and protein binding of the glioma amplified sequence (GAS41), a highly conserved putative transcription factor. Oncogene 20: 4853-4863.
6. Debernardi, S., et al. 2002. The MLL fusion partner AF10 binds GAS41, a protein that interacts with the human SWI/SNF complex. Blood 99: 275-281.

CHROMOSOMAL LOCATION

Genetic locus: Yeats4 (mouse) mapping to 10 D2.

PRODUCT

GAS41 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 GAS41 shRNA Plasmid (m): sc-145334-SH and GAS41 shRNA (m) Lentiviral Particles: sc-145334-V as alternate gene silencing products.

For independent verification of GAS41 (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-145334A, sc-145334B and sc-145334C.

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

GAS41 siRNA (m) is recommended for the inhibition of GAS41 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.

GENE EXPRESSION MONITORING

GAS41 (C-10): sc-393708 is recommended as a control antibody for monitoring of GAS41 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-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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GAS41 gene expression knockdown using RT-PCR Primer: GAS41 (m)-PR: sc-145334-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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