SANTA CRUZ BIOTECHNOLOGY, INC.

Gas8 siRNA (h): sc-75107

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The Power to Question

BACKGROUND

Gas8 (growth arrest-specific 8), also known as Gas11, is a 478 amino acid protein that localizes to the Golgi apparatus, as well as to the cytoplasm and the flagellar basal body, and belongs to the growth arrest-specific protein family. Expressed in liver, heart and skeletal muscle with lower levels present in lung, brain, kidney and placenta, Gas8 functions as a cytoskeletal linker that binds microtubules and is thought to play a role in axonemal and non-axonemal dynein regulation. Gas8 may also be involved in spermatozoa motility and, when defective, may be associated with infertility in males lacking gametocytes. The gene encoding Gas8 maps to a region on human chromosome 16q24.3 that is frequently deleted in breast and prostate cancer, suggesting a role for Gas8 in tumorigenesis.

REFERENCES

1. Whitmore, S.A., et al. 1998. Characterization and screening for mutations of the growth arrest-specific 11 (GAS11) and C16orf3 genes at 16q24.3 in breast cancer. Genomics 52: 325-331.
2. Yeh, S.D., et al. 2002. Isolation and properties of Gas8, a growth arrest-specific gene regulated during male gametogenesis to produce a protein associated with the sperm motility apparatus. J. Biol. Chem. 277: 6311-6317.
3. Ralston, K.S. and Hill, K.L. 2006. Trypanin, a component of the flagellar dynein regulatory complex, is essential in bloodstream form African trypanosomes. PLoS Pathog. 2: e101.
4. Colantonio, J.R., et al. 2006. Expanding the role of the dynein regulatory complex to non-axonemal functions: association of GAS11 with the Golgi apparatus. Traffic 7: 538-548.
5. Bekker, J.M., et al. 2007. Direct interaction of Gas11 with microtubules: implications for the dynein regulatory complex. Cell Motil. Cytoskeleton 64: 461-473.
6. Nishimura, N., et al. 2008. Interaction of Rab3B with microtubule-binding protein Gas8 in NIH 3T3 cells. Arch. Biochem. Biophys. 474: 136-142.
7. Colantonio, J.R., et al. 2009. The dynein regulatory complex is required for ciliary motility and otolith biogenesis in the inner ear. Nature 457: 205-209.

CHROMOSOMAL LOCATION

Genetic locus: GAS8 (human) mapping to 16q24.3.

PRODUCT

Gas8 siRNA (h) 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 Gas8 shRNA Plasmid (h): sc-75107-SH and Gas8 shRNA (h) Lentiviral Particles: sc-75107-V as alternate gene silencing products.

For independent verification of Gas8 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-75107A, sc-75107B and sc-75107C.

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

Gas8 siRNA (h) is recommended for the inhibition of Gas8 expression in human 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

Gas8 (G-12): sc-390346 is recommended as a control antibody for monitoring of Gas8 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 Gas8 gene expression knockdown using RT-PCR Primer: Gas8 (h)-PR: sc-75107-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.