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### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# Gas7 siRNA (m): sc-45346

## BACKGROUND

Growth arrest specific proteins, including Gas 1, Gas 6 and Gas 7, are activated in quiescent cells. Gas 7 plays a role in neurite differentiation in cultured mouse cerebellar neurons and PC-12 cells, which makes it a potential therapeutic target to promote the re-establishment of neuronal connections in the injured or disease brain. The gene encoding human Gas7 maps to chromosome 17p13.1, which can translocate with MLL to form MLL-GAS7 fusion products. The Gas7 protein is expressed as three isoforms, a, b, and c, which are differentially expressed in all brain subregions.

## REFERENCES

1. Ju, Y.T., et al. 1998. Gas7: a gene expressed preferentially in growth-arrested fibroblasts and terminally differentiated Purkinje neurons affects neurite formation. *Proc. Natl. Acad. Sci. USA* 95: 11423-11428.
2. Lazakovitch, E.M., et al. 1999. The Gas7 gene encodes two protein isoforms differentially expressed within the brain. *Genomics* 61: 298-306.
3. Megonigal, M.D., et al. 2000. Detection of leukemia-associated MLL-GAS7 translocation early during chemotherapy with DNA topoisomerase II inhibitors. *Proc. Natl. Acad. Sci. USA* 97: 2814-2819.
4. She, B.R., et al. 2002. Association of the growth-arrest-specific protein Gas7 with F-Actin induces reorganization of microfilaments and promotes membrane outgrowth. *Exp. Cell Res.* 273: 34-44.
5. Chao, C.C., et al. 2003. Involvement of Gas7 in nerve growth factor-independent and dependent cell processes in PC12 cells. *J. Neurosci. Res.* 74: 248-254.
6. So, C.W., et al. 2003. MLL-GAS7 transforms multipotent hematopoietic progenitors and induces mixed lineage leukemias in mice. *Cancer Cell* 3: 161-171.
7. Chang, P.Y., et al. 2005. Identification of rat Gas7 isoforms differentially expressed in brain and regulated following kainate-induced neuronal injury. *J. Neurosci. Res.* 79: 788-797.

## CHROMOSOMAL LOCATION

Genetic locus: Gas7 (mouse) mapping to 11 B3.

## PRODUCT

Gas7 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Gas7 shRNA Plasmid (m): sc-45346-SH and Gas7 shRNA (m) Lentiviral Particles: sc-45346-V as alternate gene silencing products.

For independent verification of Gas7 (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-45346A, sc-45346B and sc-45346C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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

## APPLICATIONS

Gas7 siRNA (m) is recommended for the inhibition of Gas7 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  $\mu$ M in 66  $\mu$ 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

Gas7 (H-9): sc-365385 is recommended as a control antibody for monitoring of Gas7 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 Gas7 gene expression knockdown using RT-PCR Primer: Gas7 (m)-PR: sc-45346-PR (20  $\mu$ l). 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.