

# Gvin1 siRNA (m): sc-145844

## BACKGROUND

Gvin1 (GTPase, very large interferon inducible 1), also known as VLIG-1 (very large inducible GTPase-1), is a 2427 amino acid protein that belongs to the TRAFAC class dynamin-like GTPase superfamily and contains one VLIG-type G domain. Gvin1 is widely expressed with low levels in the heart, lung, spleen and thymus. Lowest levels are found in testis, brain, kidney, liver and ovary. Gvin 1 is undetectable in embryo. Localizing to the cytoplasm and nucleus, Gvin1 is induced by IFN type I (IFN- $\alpha$  and - $\beta$  and IFN type II (IFN- $\gamma$ ). The gene encoding Gvin1 maps to mouse chromosome 7. Human chromosome 7 is about 158 million bases long, encodes over 1,000 genes and makes up about 5% of the human genome. Chromosome 7 has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome. The deletion of a portion of the q arm of chromosome 7 is associated with Williams-Beuren syndrome, a condition characterized by mild mental retardation, an unusual comfort and friendliness with strangers and an elfin appearance.

## REFERENCES

1. Tsipouras, P., Myers, J.C., Ramirez, F. and Prockop, D.J. 1983. Restriction fragment length polymorphism associated with the pro  $\alpha$  2(I) gene of human type I procollagen. Application to a family with an autosomal dominant form of osteogenesis imperfecta. *J. Clin. Invest.* 72: 1262-1267.
2. Hillier, L.W., Fulton, R.S., Fulton, L.A., Graves, T.A., Pepin, K.H., Wagner-McPherson, C., Layman, D., Maas, J., Jaeger, S., Walker, R., Wylie, K., Sekhon, M., Becker, M.C., et al. 2003. The DNA sequence of human chromosome 7. *Nature* 424: 157-164.
3. Osborne, L.R., Joseph-George, A.M. and Scherer, S.W. 2006. Williams-Beuren syndrome diagnosis using fluorescence *in situ* hybridization. *Methods Mol. Med.* 126:113-128.
4. Reiner, O., Sapoznik, S. and Sapir, T. 2006. Lissencephaly 1 linking to multiple diseases: mental retardation, neurodegeneration, schizophrenia, male sterility, and more. *Neuromolecular Med.* 8: 547-565.
5. Shimamura, A. 2006. Shwachman-Diamond syndrome. *Semin. Hematol.* 43: 178-188.
6. Klamp, T., Boehm, U., Schenk, D., Pfeffer, K. and Howard, J.C. 2003. A giant GTPase, very large inducible GTPase-1, is inducible by IFNs. *J. Immunol.* 171: 1255-1265.
7. Huttlin, E.L., Jedrychowski, M.P., Elias, J.E., Goswami, T., Rad, R., Beausoleil, S.A., Villen, J., Haas, W., Sowa, M.E. and Gygi, S.P. 2010. A tissue-specific atlas of mouse protein phosphorylation and expression. *Cell* 143: 1174-1189.

## CHROMOSOMAL LOCATION

Genetic locus: Gvin1 (mouse) mapping to 7 E3.

## PROTOCOLS

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

## PRODUCT

Gvin1 siRNA (m) is a target-specific 19-25 nt siRNA 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 Gvin1 shRNA Plasmid (m): sc-145844-SH and Gvin1 shRNA (m) Lentiviral Particles: sc-145844-V as alternate gene silencing 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

Gvin1 siRNA (m) is recommended for the inhibition of Gvin1 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Gvin1 gene expression knockdown using RT-PCR Primer: Gvin1 (m)-PR: sc-145844-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.