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# PIG-H siRNA (m): sc-152251

## BACKGROUND

Phosphatidylinositol-glycans (PIGs) are multi-pass transmembrane proteins that localize to endoplasmic reticulum (ER). PIGs are crucial for the synthesis of N-acetylglucosaminyl-phosphatidylinositol (GlcNAc-PI), a very early intermediate in glycosylphosphatidylinositol (GPI)-anchor biosynthesis. PIG proteins are components of the GPI transamidase complex and play a role in the recognition of either the GPI attachment signal or the lipid portion of GPI. PIG-H (phosphatidylinositol glycan anchor biosynthesis, class H), also known as phosphatidylinositol N-acetylglucosaminyltransferase subunit H or GPI-H, is a 188 amino acid ER transmembrane protein. PIG-H forms a complex with PIG-A and functions as a subunit of the ER GPI-GlcNAc transferase. PIG-H, PIG-A and PIG-C are required for the first step in GPI anchor biosynthesis. PIG-H also associates with PIG-A, PIG-C and PIG-Q, thereby forming a complex that participates in GPI-GlcNAc transferase activity *in vitro*.

## REFERENCES

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- Inoue, N., et al. 1996. PIG-C, one of the three human genes involved in the first step of glycosylphosphatidylinositol biosynthesis is a homologue of *Saccharomyces cerevisiae* GPI2. *Biochem. Biophys. Res. Commun.* 226: 193-199.
- Watanabe, R., et al. 1996. PIG-A and PIG-H, which participate in glycosylphosphatidylinositol anchor biosynthesis, form a protein complex in the endoplasmic reticulum. *J. Biol. Chem.* 271: 26868-26875.
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- Kinoshita, T., et al. 1997. GPI-anchor synthesis in mammalian cells: genes, their products, and a deficiency. *J. Biochem.* 122: 251-257.
- Watanabe, R., et al. 1998. The first step of glycosylphosphatidylinositol biosynthesis is mediated by a complex of PIG-A, PIG-H, PIG-C and GPI1. *EMBO J.* 17: 877-885.
- Kinoshita, T. and Inoue, N. 2000. Dissecting and manipulating the pathway for glycosylphosphatidylinositol-anchor biosynthesis. *Curr. Opin. Chem. Biol.* 4: 632-638.
- Watanabe, R., et al. 2000. Initial enzyme for glycosylphosphatidylinositol biosynthesis requires PIG-P and is regulated by DPM2. *EMBO J.* 19: 4402-4411.

## CHROMOSOMAL LOCATION

Genetic locus: Pigh (mouse) mapping to 12 C3.

## PROTOCOLS

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

## PRODUCT

PIG-H siRNA (m) is a pool of 2 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 PIG-H shRNA Plasmid (m): sc-152251-SH and PIG-H shRNA (m) Lentiviral Particles: sc-152251-V as alternate gene silencing products.

For independent verification of PIG-H (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-152251A and sc-152251B.

## 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

PIG-H siRNA (m) is recommended for the inhibition of PIG-H 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 PIG-H gene expression knockdown using RT-PCR Primer: PIG-H (m)-PR: sc-152251-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.