

# GPR112 siRNA (h): sc-91100

## BACKGROUND

G protein-coupled receptors (GPRs or GPCRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, are members of the largest protein family and play a role in many different stimulus-response pathways. G protein-coupled receptors mediate extracellular signals into intracellular signals (G protein activation). They respond to a wide variety of signaling molecules, including hormones, neurotransmitters and other proteins and peptides. GPR proteins are usually integral seven pass membrane proteins with some conserved amino acid regions. GPR112 (G protein-coupled receptor 112) is a 3,080 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor 2 family and LN-TM7 subfamily. Localizing to cell membrane, GPR112 is highly expressed in normal enterochromaffin cells, as well as neuroendocrine and primary liver carcinoma. GPR112 contains one GPS domain and may function as an orphan receptor.

## REFERENCES

1. Fredriksson, R., Lagerström, M.C., Höglund, P.J. and Schiöth, H.B. 2002. Novel human G protein-coupled receptors with long N-terminals containing GPS domains and Ser/Thr-rich regions. *FEBS Lett.* 531: 407-414.
2. Vassilatis, D.K., Hohmann, J.G., Zeng, H., Li, F., Ranchalis, J.E., Mortrud, M.T., Brown, A., Rodriguez, S.S., Weller, J.R., Wright, A.C., Bergmann, J.E. and Gaitanaris, G.A. 2003. The G protein-coupled receptor repertoires of human and mouse. *Proc. Natl. Acad. Sci. USA* 100: 4903-4908.
3. Bjarnadóttir, T.K., Fredriksson, R., Höglund, P.J., Gloriam, D.E., Lagerström, M.C. and Schiöth, H.B. 2004. The human and mouse repertoire of the adhesion family of G protein-coupled receptors. *Genomics* 84: 23-33.
4. Ross, M.T., Grafham, D.V., Coffey, A.J., Scherer, S., McLay, K., Muzny, D., Platzer, M., Howell, G.R., Burrows, C., Bird, C.P., Frankish, A., Lovell, F.L., Howe, K.L., Ashurst, J.L., Fulton, R.S., Sudbrak, R., Wen, G., et al. 2005. The DNA sequence of the human X chromosome. *Nature* 434: 325-337.
5. Bjarnadóttir, T.K., Geirardóttir, K., Ingemansson, M., Mirza, M.A., Fredriksson, R. and Schiöth, H.B. 2007. Identification of novel splice variants of adhesion G protein-coupled receptors. *Gene* 387: 38-48.
6. Leja, J., Essaghir, A., Essand, M., Wester, K., Oberg, K., Tötterman, T.H., Lloyd, R., Vasmatzis, G., Demoulin, J.B. and Giandomenico, V. 2009. Novel markers for enterochromaffin cells and gastrointestinal neuroendocrine carcinomas. *Mod. Pathol.* 22: 261-272.

## CHROMOSOMAL LOCATION

Genetic locus: GPR112 (human) mapping to Xq26.3.

## RESEARCH USE

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

## PROTOCOLS

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

## PRODUCT

GPR112 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GPR112 shRNA Plasmid (h): sc-91100-SH and GPR112 shRNA (h) Lentiviral Particles: sc-91100-V as alternate gene silencing products.

For independent verification of GPR112 (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-91100A, sc-91100B and sc-91100C.

## 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

GPR112 siRNA (h) is recommended for the inhibition of GPR112 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  $\mu$ 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 GPR112 gene expression knockdown using RT-PCR Primer: GPR112 (h)-PR: sc-91100-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.