

# HMW-Guanylin siRNA (h): sc-45332

## BACKGROUND

The family of guanylin regulatory peptides, including guanylin and uroguanylin, are strongly expressed in intestinal mucosa and regulate intestinal fluid secretion during digestion. Guanylins are also involved in acid neutralization and the regulation of membrane-bound guanylate cyclase signaling molecules. Guanylin and uroguanylin are secreted primarily in the stomach, intestine and colon. Guanylin is also detected in plasma. Guanylin is an endogenous activator of intestinal guanylate cyclase. It stimulates intestinal guanylate cyclase through the same receptor binding region as the heat-stable enterotoxins. Gut enterochromaffin cells synthesize guanylin to be a prohormone of 115 amino acids which is then processed to the molecular form of 94 amino acids. This 10 kDa form is found circulating in the blood.

## REFERENCES

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3. Wiegand, R.C., et al. 1992. Rat guanylin cDNA: characterization of the precursor of an endogenous activator of intestinal guanylate cyclase. *Biochem. Biophys. Res. Commun.* 185: 812-817.
4. Schulz, S., et al. 1992. Cloning and expression of Guanylin. Its existence in various mammalian tissues. *J. Biol. Chem.* 267: 16019-16021.
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## CHROMOSOMAL LOCATION

Genetic locus: GUCA2A (human) mapping to 1p34.2.

## PRODUCT

HMW-Guanylin 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 HMW-Guanylin shRNA Plasmid (h): sc-45332-SH and HMW-Guanylin shRNA (h) Lentiviral Particles: sc-45332-V as alternate gene silencing products.

For independent verification of HMW-Guanylin (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-45332A, sc-45332B and sc-45332C.

## 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

HMW-Guanylin siRNA (h) is recommended for the inhibition of HMW-Guanylin 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.

## GENE EXPRESSION MONITORING

HMW-Guanylin (MAK-L-G-11): sc-59559 is recommended as a control antibody for monitoring of HMW-Guanylin 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).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HMW-Guanylin gene expression knockdown using RT-PCR Primer: HMW-Guanylin (h)-PR: sc-45332-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.

## PROTOCOLS

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