

RHAMM siRNA (h): sc-40181

BACKGROUND

Hyaluronic acid (HA) is a nonsulfated glycosaminoglycan that regulates cell adhesion and migration. HA effects are mediated through two receptors, CD44 (also designated HCAM) and the receptor of hyaluronic acid mediated motility (RHAMM). RHAMM, also designated intracellular hyaluronic acid binding protein (IHABP) and CD168, is a matrix receptor, which is linked to the plasma membrane by a GPI anchor and regulates cell motility. RHAMM expression is upregulated in malignant lymphoid tissues and is subsequently implicated in tumor progression and metastasis formation, as well as signal transduction. Although still unclear, RHAMM is thought to exist as several isoforms ranging in size. A variant isoform, designated v4, is a protein that when over-expressed, is thought to be the cause of transformation and metastasis formation in fibroblasts.

REFERENCES

1. Hardwick, C., et al. 1992. Molecular cloning of a novel hyaluronan receptor that mediates tumor cell motility. *J. Cell Biol.* 117: 1343-1350.
2. Turley, E.A., et al. 1993. Expression and function of a receptor for hyaluronan-mediated motility on normal and malignant B lymphocytes. *Blood* 81: 446-453.
3. Hofmann, M., et al. 1998. Problems with RHAMM: a new link between surface adhesion and oncogenesis? *Cell* 95: 591-592.
4. Li, H., et al. 2000. Expression of hyaluronan receptors CD44 and RHAMM in stomach cancers: relevance with tumor progression. *Int. J. Oncol.* 17: 927-932.

CHROMOSOMAL LOCATION

Genetic locus: HMMR (human) mapping to 5q34.

PRODUCT

RHAMM 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RHAMM shRNA Plasmid (h): sc-40181-SH and RHAMM shRNA (h) Lentiviral Particles: sc-40181-V as alternate gene silencing products.

For independent verification of RHAMM (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-40181A, sc-40181B and sc-40181C.

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

APPLICATIONS

RHAMM siRNA (h) is recommended for the inhibition of RHAMM 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 μ M in 66 μ 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

RHAMM (H-8): sc-515221 is recommended as a control antibody for monitoring of RHAMM 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 κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 RHAMM gene expression knockdown using RT-PCR Primer: RHAMM (h)-PR: sc-40181-PR (20 μ l, 461 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, M., et al. 2021. Emodin regulates cell cycle of non-small lung cancer (NSCLC) cells through hyaluronan synthase 2 (HA2)-HA-CD44/receptor for hyaluronic acid-mediated motility (RHAMM) interaction-dependent signaling pathway. *Cancer Cell Int.* 21: 19.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.