SANTA CRUZ BIOTECHNOLOGY, INC.

hemicentin-2 siRNA (h): sc-92917

BACKGROUND

First discovered in *C. elegans,* hemicentins are extracellular matrix (ECM) proteins that contain a single von Willebrand A domain at the amino terminus, more than 40 tandem immunoglobulin domains, multiple tandem epidermal growth factors, and a single fibulin-like carboxy-terminal module. In mammals, hemicentins are expressed in the ECM of eye, skin and tongue epithelium and in the ECM of some blood vessels. Due to the expression pattern in areas that are subject to a significant amount of stress, it is thought that hemicentins likely play a role in the architecture of flexible and adhesive cell junctions. Hemicentin-2 is a 5,065 amino acid secreted protein that is expressed in the extracellular matrix. There are three isoforms of hemicentin-2 that are produced as a result of alternative splicing events.

REFERENCES

1. Klein, M.L., Schultz, D.W., Edwards, A., Matise, T.C., Rust, K., Berselli, C.B., Trzupek, K., Weleber, R.G., Ott, J., Wirtz, M.K. and Acott, T.S. 1998. Age-related macular degeneration. Clinical features in a large family and linkage to chromosome 1q. Arch. Ophthalmol. 116: 1082-1088.
2. Vogel, B.E. and Hedgecock, E.M. 2001. Hemicentin, a conserved extracellular member of the immunoglobulin superfamily, organizes epithelial and other cell attachments into oriented line-shaped junctions. Development 128: 883-894.
3. Schultz, D.W., Klein, M.L., Humpert, A.J., Luzier, C.W., Persun, V., Schain, M., Mahan, A., Runckel, C., Cassera, M., Vittal, V., Doyle, T.M., Martin, T.M., Weleber, R.G., Francis, P.J. and Acott, T.S. 2003. Analysis of the ARMD1 locus: evidence that a mutation in hemicentin-1 is associated with age-related macular degeneration in a large family. Hum. Mol. Genet. 12: 3315-3323.
4. Schultz, D.W., Weleber, R.G., Lawrence, G., Barral, S., Majewski, J., Acott, T.S. and Klein, M.L. 2005. Hemicentin-1 (FIBULIN-6) and the 1q31 AMD locus in the context of complex disease: review and perspective. Ophthalmic Genet. 26: 101-105.
5. Bojanowski, C.M., Tuo, J., Chew, E.Y., Csaky, K.G. and Chan, C.C. 2005. Analysis of hemicentin-1, hOgg1, and E-selectin single nucleotide polymorphisms in age-related macular degeneration. Trans. Am. Ophthalmol. Soc. 103: 37-44.
6. Dong, C., Muriel, J.M., Ramirez, S., Hutter, H., Hedgecock, E.M., Breydo, L., Baskakov, I.V. and Vogel, B.E. 2006. Hemicentin assembly in the extracellular matrix is mediated by distinct structural modules. J. Biol. Chem. 281: 23606-23610.
7. Thompson, C.L., Klein, B.E., Klein, R., Xu, Z., Capriotti, J., Joshi, T., Leontiev, D., Lee, K.E., Elston, R.C. and Iyengar, S.K. 2007. Complement Factor H and hemicentin-1 in age-related macular degeneration and renal phenotypes. Hum. Mol. Genet. 16: 2135-2148.
8. Fisher, S.A., Rivera, A., Fritsche, L.G., Keilhauer, C.N., Lichtner, P., Meitinger, T., Rudolph, G. and Weber, B.H. 2007. Case-control genetic association study of fibulin-6 (FBLN6 or HMCN1) variants in age-related macular degeneration (AMD). Hum. Mutat. 28: 406-413.

CHROMOSOMAL LOCATION

Genetic locus: HMCN2 (human) mapping to 9q34.11.

PRODUCT

hemicentin-2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see hemicentin-2 shRNA Plasmid (h): sc-92917-SH and hemicentin-2 shRNA (h) Lentiviral Particles: sc-92917-V as alternate gene silencing products.

For independent verification of hemicentin-2 (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-92917A, sc-92917B and sc-92917C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

hemicentin-2 siRNA (h) is recommended for the inhibition of hemicentin-2 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 µM in 66 µl. 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 hemicentin-2 gene expression knockdown using RT-PCR Primer: hemicentin-2 (h)-PR: sc-92917-PR (20 µl). 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.