SANTA CRUZ BIOTECHNOLOGY, INC.

syncytin siRNA (h): sc-60054

BACKGROUND

Syncytin, also known as ERVWE1 (endogenous retroviral family W, env(C7), member 1) is a human endogenous retrovirus family W (HERV-W) envelope protein that is expressed in placental syncytiotrophoblast and is involved in fusion of the cytotrophoblast cells to form the multinucleated syncytial layer of the placenta. Syncytin is an envelope protein after *in vitro* transcription-translation and undergoes glycosylation. It is predicted to undergo posttranslational cleavage into a surface (SU) subunit and a transmembrane (TM) subunit. Syncytin is similar to other retroviral envelope proteins in possessing a Furin cleavage site that separates the surface (SU) and transmembrane (TM) proteins, which form a heterodimer. Northern blot analysis has been shown to detect 8.0-, 3.1- and 1.3-kb HERV-W transcripts only in placenta. Syncytin expression can increase three-fold in astrocytes and glial cells within acute demyelinating lesions of patients with multiple sclerosis compared to controls.

REFERENCES

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2. Mi, S., et al. 2000. Syncytin is a captive retroviral envelope protein involved in human placental morphogenesis. Nature 403: 785-789.
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5. Smallwood, A., et al. 2003. Temporal regulation of the expression of syncytin (HERV-W), maternally imprinted Peg10, and SGCE in human placenta. Biol. Reprod. 69: 286-293.
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7. Chang, C., et al. 2004. Functional characterization of the placental fusogenic membrane protein syncytin. Biol. Reprod. 71: 1956-1962.
8. Cheng, Y.H., et al. 2005. A placenta-specific enhancer of the human syncytin gene. Biol. Reprod. 73: 500-509.
9. Dupressoir, A., et al. 2005. Syncytin-A and syncytin-B, two fusogenic placenta-specific murine envelope genes of retroviral origin conserved in Muridae. Proc. Natl. Acad. Sci. USA 102: 725-730.

CHROMOSOMAL LOCATION

Genetic locus: ERVW-1 (human) mapping to 7q21.2.

PROTOCOLS

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

PRODUCT

syncytin 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 syncytin shRNA Plasmid (h): sc-60054-SH and syncytin shRNA (h) Lentiviral Particles: sc-60054-V as alternate gene silencing products.

For independent verification of syncytin (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-60054A, sc-60054B and sc-60054C.

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

syncytin siRNA (h) is recommended for the inhibition of syncytin 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 syncytin gene expression knockdown using RT-PCR Primer: syncytin (h)-PR: sc-60054-PR (20 µl, 520 bp). 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.