SANTA CRUZ BIOTECHNOLOGY, INC.

syncytin-2 siRNA (h): sc-95207

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 expressed in placenta that is involved in the fusion of cytotrophoblast cells to form the multi-nucleated syncytial layer of the placenta. In both humans and mice, placental cytotrophoblast morphogenesis, more commonly known as trophoblast maturation, is crucial for proper embryonic and placental development. Syncytin-2, also known as HERV-FRD, is a 538 amino acid single-pass membrane protein that is highly expressed in placenta. Syncytin-2 is a retroviral envelope protein that mediates receptor recognition and membrane fusion during early infection. Syncytin-2 belongs to the γ type-C retroviral envelope protein family and the HERV class-I FRD subfamily.

REFERENCES

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2. Blaise, S., et al. 2004. Identification of an envelope protein from the FRD family of human endogenous retroviruses (HERV-FRD) conferring infectivity and functional conservation among simians. J. Virol. 78: 1050-1054.
3. Renard, M., et al. 2005. Crystal structure of a pivotal domain of human syncytin-2, a 40 million years old endogenous retrovirus fusogenic envelope gene captured by primates. J. Mol. Biol. 352: 1029-1034.
4. Blaise, S., et al. 2005. Functional characterization of two newly identified human endogenous retrovirus coding envelope genes. Retrovirology 2: 19.
5. Malassine, A., et al. 2007. Expression of the fusogenic HERV-FRD Env glycoprotein (syncytin-2) in human placenta is restricted to villous cytotrophoblastic cells. Placenta 28: 185-191.
6. Larsson, L.I., et al. 2007. Syncytin and cancer cell fusions. ScientificWorldJournal 7: 1193-1197.
7. Chen, C.P., et al. 2008. Functional characterization of the human placental fusogenic membrane protein syncytin-2. Biol. Reprod. 79: 815-823.
8. Esnault, C., et al. 2008. A placenta-specific receptor for the fusogenic, endogenous retrovirus-derived, human syncytin-2. Proc. Natl. Acad. Sci. USA 105: 17532-17537.
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CHROMOSOMAL LOCATION

Genetic locus: ERVFRD-1 (human) mapping to 6p24.2.

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.

PRODUCT

syncytin-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 syncytin-2 shRNA Plasmid (h): sc-95207-SH and syncytin-2 shRNA (h) Lentiviral Particles: sc-95207-V as alternate gene silencing products.

For independent verification of syncytin-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-95207A, sc-95207B and sc-95207C.

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-2 siRNA (h) is recommended for the inhibition of syncytin-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 syncytin-2 gene expression knockdown using RT-PCR Primer: syncytin-2 (h)-PR: sc-95207-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.