

Delta siRNA (h): sc-37200

BACKGROUND

The LIN-12/Notch family of transmembrane receptors is believed to play a central role in development by regulating cell fate decisions. Notch proteins have been found to be overexpressed or rearranged in human tumors. Ligands for Notch include Jagged, Jagged-2 and Delta. While blocking the differentiation of progenitor cells into the B cell lineage, Delta promotes the emergence of a population of cells with T cell/NK-cell characteristics. Delta is a membrane protein expressed in heart, pancreas, brain and muscle during gastrulation and early organogenesis, and in adult heart and lung.

REFERENCES

1. Simpson, P. 1994. The Notch receptors. Austin, Texas: R.G. Landes Company.
2. Bettenhausen, B., et al. 1995. Transient and restricted expression during mouse embryogenesis of Dll1, a murine gene closely related to *Drosophila* Delta. *Development* 121: 2407-2418.
3. Girard, L., et al. 1996. Frequent provirus insertional mutagenesis of Notch 1 in thymomas of MMTVD/Myc transgenic mice suggests a collaboration of c-Myc and Notch 1 for oncogenesis. *Genes Dev.* 10: 1930-1944.
4. Jaleco, A.C., et al. 2001. Differential effects of Notch ligands Delta-1 and Jagged-1 in human lymphoid differentiation. *J. Exp. Med.* 7: 991-1002.
5. LaVoie, M.J., et al. 2003. The Notch ligands, Jagged and Delta, are sequentially processed by α -secretase and presenilin-1-secretase and release signaling fragments. *J. Biol. Chem.* 278: 34427-34437.
6. Ahimou, F., et al. 2004. The adhesion force of Notch with Delta and the rate of Notch signaling. *J. Cell Biol.* 167: 1217-1229.

CHROMOSOMAL LOCATION

Genetic locus: DLL1 (human) mapping to 6q27.

PRODUCT

Delta siRNA (h) is a pool of 2 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 Delta shRNA Plasmid (h): sc-37200-SH and Delta shRNA (h) Lentiviral Particles: sc-37200-V as alternate gene silencing products.

For independent verification of Delta (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-37200A and sc-37200B.

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

Delta siRNA (h) is recommended for the inhibition of Delta 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

Delta (G-1): sc-377310 is recommended as a control antibody for monitoring of Delta 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 Marker[™] 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 Delta gene expression knockdown using RT-PCR Primer: Delta (h)-PR: sc-37200-PR (20 μ l, 576 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Tamagawa, Y., et al. 2016. Bile acids induce Delta-like 1 expression via Cdx2-dependent pathway in the development of Barrett's esophagus. *Lab. Invest.* 96: 325-337.
2. Soni, H., et al. 2019. γ -secretase inhibitor DAPT mitigates cisplatin-induced acute kidney injury by suppressing Notch1 signaling. *J. Cell. Mol. Med.* 23: 260-270.

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.