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# Deltex-1 shRNA (h) Lentiviral Particles: sc-45649-V

## BACKGROUND

Deltex-1 (DTX) influences B cell lineage and splenic marginal zone B cell commitment. The inhibitory signals mediated through Deltex-1 along with inductive Notch 1 signals act as modulators of T/B lineage commitment. Deltex family members influence Notch signaling and may regulate transcription through interactions with specific transcription factors. Deltex proteins have a basic N-terminus, a central proline-rich region, and a C-terminal RING finger domain, a motif often found in ubiquitin-protein isopeptide ligases (E3). Kurtz (Krz) is an Arrestin family member that binds Deltex in a trimeric complex together with Notch and mediates the degradation of the Notch receptor through a ubiquitination-dependent pathway.

## REFERENCES

1. Matsuno, K., et al. 1998. Human deltex is a conserved regulator of Notch signalling. *Nat. Genet.* 19: 74-78.
2. Yamamoto, N., et al. 2001. Role of Deltex-1 as a transcriptional regulator downstream of the Notch receptor. *J. Biol. Chem.* 276: 45031-45040.
3. Izon, D.J., et al. 2002. Deltex1 redirects lymphoid progenitors to the B cell lineage by antagonizing Notch1. *Immunity* 16: 231-243.
4. Takeyama, K., et al. 2003. The BAL-binding protein BBAP and related Deltex family members exhibit ubiquitin-protein isopeptide ligase activity. *J. Biol. Chem.* 278: 21930-21937.
5. Cui, X.Y., et al. 2004. NB-3/Notch1 pathway via Deltex1 promotes neural progenitor cell differentiation into oligodendrocytes. *J. Biol. Chem.* 279: 25858-25865.
6. Liu, W.H., et al. 2005. Deltex regulates T-cell activation by targeted degradation of active MEK1. *Mol. Cell. Biol.* 25: 1367-1378.
7. Storck, S., et al. 2005. Normal immune system development in mice lacking the Deltex-1 RING finger domain. *Mol. Cell. Biol.* 25: 1437-1445.
8. Mukherjee, A., et al. 2005. Regulation of Notch signalling by non-visual beta-arrestin. *Nat. Cell Biol.* 7: 1091-1101.

## CHROMOSOMAL LOCATION

Genetic locus: DTX1 (human) mapping to 12q24.13.

## PRODUCT

Deltex-1 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Deltex-1 siRNA (h): sc-45649 and Deltex-1 shRNA Plasmid (h): sc-45649-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^{\circ}$  C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^{\circ}$  C for up to one week. Avoid repeated freeze thaw cycles.

## APPLICATIONS

Deltex-1 shRNA (h) Lentiviral Particles is recommended for the inhibition of Deltex-1 expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

Deltex-1 (D-20): sc-46089 is recommended as a control antibody for monitoring of Deltex-1 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Deltex-1 gene expression knockdown using RT-PCR Primer: Deltex-1 (h)-PR: sc-45649-PR (20  $\mu$ l). Annealing temperature for the primers should be  $55-60^{\circ}$  C and the extension temperature should be  $68-72^{\circ}$  C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

## PROTOCOLS

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