SANTA CRUZ BIOTECHNOLOGY, INC.

Deltex-3 siRNA (h): sc-96143

BACKGROUND

The Deltex family of proteins (Deltex-1, 2, 3 and 4) are mammalian homologs of Drosophila Deltex. This family contains two WWE domains and a C-terminal RING-finger domain, which are regions that are frequently found in E3 ubiquitin ligases. Deltex-3, also known as RNF154 (RING finger protein 154), is a 347 amino acid cytoplasmic protein that acts as both a negative and positive regulator of Notch, depending on the developmental and cell context. Though primarily acting as a homomultimer, Deltex-3 may form a heteromultimer with other Deltex proteins. Like other Deltex family members, Deltex-3 functions as a ubiquitin E3 ligase that shows highest activity in conjunction with the E2 enzyme UBE2D. There are two isoforms of Deltex-3 that are produced as a result of alternative splicing events.

REFERENCES

1. 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.
2. Blacklow, S.C. 2005. A new niche for Notch on Deltex? Structure 13: 1579-1580.
3. Chastagner, P., et al. 2006. Itch/AIP4 mediates Deltex degradation through the formation of K29-linked polyubiquitin chains. EMBO Rep. 7: 1147-1153.
4. Lehar, S.M., et al. 2006. T cells develop normally in the absence of both Deltex1 and Deltex2. Mol. Cell. Biol. 26: 7358-7371.
5. Jennings, M.D., et al. 2007. Specificity and autoregulation of Notch binding by tandem WW domains in suppressor of Deltex. J. Biol. Chem. 282: 29032-29042.
6. Wilkin, M., et al. 2008. *Drosophila* HOPS and AP-3 complex genes are required for a Deltex-regulated activation of notch in the endosomal trafficking pathway. Dev. Cell 15: 762-772.
7. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 613142. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
8. Zhang, P., et al. 2010. Regulation of NOTCH signaling by reciprocal inhibition of HES1 and Deltex 1 and its role in osteosarcoma invasiveness. Oncogene 29: 2916-2926.

CHROMOSOMAL LOCATION

Genetic locus: DTX3 (human) mapping to 12q13.3.

PRODUCT

Deltex-3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Deltex-3 shRNA Plasmid (h): sc-96143-SH and Deltex-3 shRNA (h) Lentiviral Particles: sc-96143-V as alternate gene silencing products.

For independent verification of Deltex-3 (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-96143A and sc-96143B.

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

Deltex-3 siRNA (h) is recommended for the inhibition of Deltex-3 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.

GENE EXPRESSION MONITORING

Deltex-3 (C-10): sc-376439 is recommended as a control antibody for monitoring of Deltex-3 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 goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (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-3 gene expression knockdown using RT-PCR Primer: Deltex-3 (h)-PR: sc-96143-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.