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SANTA CRUZ BIOTECHNOLOGY, INC.

# Dynlt1b shRNA (m) Lentiviral Particles: sc-43320-V

## BACKGROUND

Dyneins are multisubunit, high molecular weight ATPases that interact with microtubules to generate force by converting the chemical energy of ATP into the mechanical energy of movement. Cytoplasmic or axonemal Dynein heavy, intermediate, light and light-intermediate chains are all components of minus end-directed motors; the complex transports cellular cargos towards the central region of the cell. Axonemal Dynein motors contain one to three non-identical heavy chains and cause a sliding of microtubules in the axonemes of cilia and flagella in a mechanism necessary for cilia to beat and propel the cell. Cytoplasmic Dynein is an approximately 12 subunit complex of two heavy chains, two intermediate chains to anchor Dynein to its cargo, four smaller intermediate chains and several light chains. It performs functions necessary for cell survival such as organelle transport and centrosome assembly. The carboxy terminus of Dynein is important for microtubule-dependent motility and is highly conserved, while the amino terminal regions are more variable. Several proteins regulate Dynein activity, including dynactin, LIS1 and NudEL(NudE-like).

## REFERENCES


1. Mallik, R., et al. 2004. Cytoplasmic dynein functions as a gear in response to load. Nature 427: 649-652.
2. Malikov, V., et al. 2004. Cytoplasmic dynein nucleates microtubules to organize them into radial arrays *in vivo*. Mol. Biol. Cell 15: 2742-2749.
3. Asai, D.J., et al. 2004. The dynein heavy chain family. J. Eukaryot. Microbiol. 51: 23-29.
4. Li, J., et al. 2005. NudEL targets dynein to microtubule ends through LIS1. Nat. Cell Biol. 7: 686-690.


## CHROMOSOMAL LOCATION

Genetic locus: Dynlt1b (mouse) mapping to 17 A1.

## PRODUCT

Dynlt1b shRNA (m) 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 µl frozen stock containing 1.0 x $10^6$ 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 Dynlt1b siRNA (m): sc-43320 and Dynlt1b shRNA Plasmid (m): sc-43320-SH as alternate gene silencing products.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

Dynlt1b shRNA (m) Lentiviral Particles is recommended for the inhibition of Dynlt1b expression in mouse cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x $10^6$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Dynlt1b gene expression knockdown using RT-PCR Primer: Dynlt1b (m)-PR: sc-43320-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° 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.