

Hint2 shRNA (m) Lentiviral Particles: sc-145967-V

BACKGROUND

Hint2 (histidine triad nucleotide binding protein 2), also known as HIT-17, is a 163 amino acid secreted protein that contains one HIT domain, a histidine triad that has catalytic activity toward the α -phosphate of ribonucleotides. Via its HIT domain, Hint2 is thought to function as a hydrolase that is encoded by a gene which maps to chromosome 9. Chromosome 9 contains 145 million base pairs and comprises 4% of the human genome, encoding nearly 900 genes. Hereditary hemorrhagic telangiectasia and familial dysautonomia are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster. Chromosome 9 is partnered with chromosome 22 in translocations that lead to the aberrant production of a Bcr-Abl fusion protein often found in leukemias.

REFERENCES

1. Brenner, C. 2002. Hint, Fhit, and GalT: function, structure, evolution, and mechanism of three branches of the histidine triad superfamily of nucleotide hydrolases and transferases. *Biochemistry* 41: 9003-9014.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609997. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Humphray, S.J., et al. 2004. DNA sequence and analysis of human chromosome 9. *Nature* 429: 369-374.
4. Coppo, P., et al. 2006. Bcr-Abl activates Stat3 via JAK and MEK pathways in human cells. *Br. J. Haematol.* 134: 171-179.
5. Zheng, X., et al. 2006. Bcr and its mutants, the reciprocal t(9;22)-associated Abl/Bcr fusion proteins, differentially regulate the cytoskeleton and cell motility. *BMC Cancer* 7: 262.

CHROMOSOMAL LOCATION

Genetic locus: Hint2 (mouse) mapping to 4 B1.

PRODUCT

Hint2 shRNA (m) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 2 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 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 Hint2 siRNA (m): sc-145967 and Hint2 shRNA Plasmid (m): sc-145967-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 for detailed protocols and support products.

APPLICATIONS

Hint2 shRNA (m) Lentiviral Particles is recommended for the inhibition of Hint2 expression in mouse cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 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 Hint2 gene expression knockdown using RT-PCR Primer: Hint2 (m)-PR: sc-145967-PR (20 μ l). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

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.