BACKGROUND

The cystatin superfamily is a well-established family of cysteine protease inhibitors. All true cystatins inhibit cysteine peptidases of the papain family, such as cathepsins, while some also inhibit legumain family enzymes. The CRES (cystatin-related epididymal spermatogenic) protein defines a new subgroup in the family 2 cystatins of the cystatin superfamily. CRES proteins lack two of the three consensus sites necessary for the cystatin inhibition of C1 cysteine proteases. They are also preferentially expressed in postmeiotic germ cells, the proximal caput epididymidis, and anterior pituitary gonadotrophs. Therefore, CRES proteins may perform unique and tissue-specific functions in the reproductive and neuroendocrine systems. As a member of the CRES subfamily, Cystatin-like 1 (CSTL1) is a 145 amino acid protein and is expressed in testis.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: CSTL1 (human) mapping to 20p11.21.

PRODUCT

CSTL1 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 µl frozen 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.

APPLICATIONS

CSTL1 shRNA (h) Lentiviral Particles is recommended for the inhibition of CSTL1 expression in human 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 CSTL1 gene expression knockdown using RT-PCR Primer: CSTL1 (h)-PR: sc-77041-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.