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SANTA CRUZ BIOTECHNOLOGY, INC.

LCT siRNA (m): sc-146688

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

LCT (lactase), also known as LAC, LPH (lactase-phlorizin hydrolase) or LPH1, is a 1,927 amino acid single-pass type I membrane protein that belongs to the glycosyl hydrolase 1 family. Expressed in intestine, LCT hydrolyzes lactose to form D-galactose and D-glucose. LCT is suggested to have both phlorizin hydrolase and lactase activity. Defects in the gene encoding LCT are the cause of congenital lactase deficiency (COLACD), also known as hereditary alactasia or disaccharide intolerance II. COLACD is a an autosomal recessive, rare and severe gastrointestinal disorder that is characterized by watery diarrhea in infants fed with breast milk or other lactose-containing formulas. Down-regulation of lactase activity during childhood or early adulthood is the cause of lactose intolerance, which is the most common enzyme deficiency worldwide. The down-regulation of lactase activity operates at the transcriptional level and it is associated with a noncoding variation in the MCM6 gene, which is located in the upstream vicinity of LCT.

REFERENCES

1. Boll, W., et al. 1991. Structure of the chromosomal gene and cDNAs coding for lactase-phlorizin hydrolase in humans with adult-type hypolactasia or persistence of lactase. Am. J. Hum. Genet. 48: 889-902.
2. Harvey, C.B., et al. 1993. Regional localization of the lactase-phlorizin hydrolase gene, LCT, to chromosome 2q21. Ann. Hum. Genet. 57: 179-185.
3. Harvey, C.B., et al. 1995. DNA polymorphisms in the lactase gene. Linkage disequilibrium across the 70-kb region. Eur. J. Hum. Genet. 3: 27-41.
4. Harvey, C.B., et al. 1998. Lactase haplotype frequencies in Caucasians: association with the lactase persistence/non-persistence polymorphism. Ann. Hum. Genet. 62: 215-223.
5. Enattah, N.S., et al. 2002. Identification of a variant associated with adult-type hypolactasia. Nat. Genet. 30: 233-237.
6. Beja-Pereira, A., et al. 2003. Gene-culture coevolution between cattle milk protein genes and human lactase genes. Nat. Genet. 35: 311-313.
7. Hollox, E. 2005. Evolutionary genetics: genetics of lactase persistence—fresh lessons in the history of milk drinking. Eur. J. Hum. Genet. 13: 267-269.
8. Kuokkanen, M., et al. 2006. Mutations in the translated region of the lactase gene (LCT) underlie congenital lactase deficiency. Am. J. Hum. Genet. 78: 339-344.
9. Enattah, N.S., et al. 2008. Independent introduction of two lactase-persistence alleles into human populations reflects different history of adaptation to milk culture. Am. J. Hum. Genet. 82: 57-72.

CHROMOSOMAL LOCATION

Genetic locus: Lct (mouse) mapping to 1 E4.

PROTOCOLS

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

PRODUCT

LCT siRNA (m) is a target-specific 19-25 nt siRNA 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 LCT shRNA Plasmid (m): sc-146688-SH and LCT shRNA (m) Lentiviral Particles: sc-146688-V as alternate gene silencing products.

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

LCT siRNA (m) is recommended for the inhibition of LCT expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LCT gene expression knockdown using RT-PCR Primer: LCT (m)-PR: sc-146688-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.