



CT120 siRNA (h): sc-94241

BACKGROUND

CT120, also known as FAM57A (family with sequence similarity 57, member A), is a 257 amino acid multi-pass membrane protein that contains one TLC (TRAM/LAG1/CLN8) domain. Expressed at high levels in pancreas, CT120 is found at moderate levels in kidney, placenta and heart, and is found at low levels in skeletal muscle, liver and brain. CT120 exists as two alternatively spliced isoforms and interacts with both CD98 and GGTL3. The gene encoding CT120 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Hall, J.M., et al. 1992. Closing in on a breast cancer gene on chromosome 17q. *Am. J. Hum. Genet.* 50: 1235-1242.
2. Evans, S.C. and Lozano, G. 1997. The Li-Fraumeni syndrome: an inherited susceptibility to cancer. *Mol. Med. Today* 3: 390-395.
3. Kersemaekers, A.M., et al. 1998. Loss of heterozygosity for defined regions on chromosomes 3, 11 and 17 in carcinomas of the uterine cervix. *Br. J. Cancer* 77: 192-200.
4. Soussi, T., et al. 2000. p53 website and analysis of p53 gene mutations in human cancer: forging a link between epidemiology and carcinogenesis. *Hum. Mutat.* 15: 105-113.
5. Piura, B., et al. 2001. Three primary malignancies related to BRCA mutation successively occurring in a BRCA1 185delAG mutation carrier. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 97: 241-244.
6. He, X., et al. 2002. Molecular cloning and characterization of CT120, a novel membrane-associated gene involved in amino acid transport and glutathione metabolism. *Biochem. Biophys. Res. Commun.* 297: 528-536.
7. Pan, D.N., et al. 2005. Inhibitory effect of CT120B, an alternative splice variant of CT120A, on lung cancer cell growth. *Acta Biochim. Biophys. Sin.* 37: 588-592.
8. Li, Z., et al. 2010. Silencing of CT120 by antisense oligonucleotides could inhibit the lung cancer cells growth. *Ir. J. Med. Sci.* 179: 217-223.

CHROMOSOMAL LOCATION

Genetic locus: FAM57A (human) mapping to 17p13.3.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

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

PRODUCT

CT120 siRNA (h) is a pool of 3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CT120 shRNA Plasmid (h): sc-94241-SH and CT120 shRNA (h) Lentiviral Particles: sc-94241-V as alternate gene silencing products.

For independent verification of CT120 (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-94241A, sc-94241B and sc-94241C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CT120 siRNA (h) is recommended for the inhibition of CT120 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 μ M in 66 μ l. 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 CT120 gene expression knockdown using RT-PCR Primer: CT120 (h)-PR: sc-94241-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.