SANTA CRUZ BIOTECHNOLOGY, INC.

CSNK1A1L siRNA (h): sc-105247

BACKGROUND

Casein kinase I (also designated CKI) and casein kinase II (CKII) compose a family of serine/threonine protein kinases which are present in all eukaryotes examined to date. Casein kinase I family members, which include casein kinase Iα, Iγ, Iδ and Iε, have been implicated in the control of cytoplasmic and nuclear processes, including DNA replication and repair, membrane trafficking, circadian rhythm, cell cycle progression, chromosome segregation, apoptosis and cellular differentiation. Casein kinase I isoform α-like (CSNK1A1L) is a 337 amino acid protein that shares a high degree of sequence similarity with the α isoform of casein kinase 1. CSNK1A1L resides in the cytoplasm and participates in the Wnt signaling pathway. By utilizing ATP within its protein kinase domain, CSNK1A1L phosphorylates a large number of proteins.

REFERENCES

1. Tuazon, P.T., et al. 1991. Casein kinase I and II—multipotential serine protein kinases: structure, function and regulation. Adv. Second Messenger Phosphoprotein Res. 23: 123-164.
2. Graves, P.R., et al. 1993. Molecular cloning, expression and characterization of a 49 kDa casein kinase I isoform from rat testis. J. Biol. Chem. 268: 6394-6401.
3. Zhai, L., et al. 1995. Casein kinase Iγ subfamily. Molecular cloning, expression, and characterization of three mammalian isoforms and complementation of defects in the *Saccharomyces cerevisiae* YCK genes. J. Biol. Chem. 270: 12717-12724.
4. Fish, K.J., et al. 1995. Isolation and characterization of human casein kinase Iε (CKI), a novel member of the CKI gene family. J. Biol. Chem. 270: 14875-14883.
5. Knippschild, U., et al. 2005. The role of the casein kinase 1 (CK1) family in different signaling pathways linked to cancer development. Onkologie 28: 508-514.
6. SWISS-PROT/TrEMBL (Q8N752). World Wide Web URL: http://www.uniprot.org/uniprot/Q8N752

CHROMOSOMAL LOCATION

Genetic locus: CSNK1A1L (human) mapping to 13q13.3.

PRODUCT

CSNK1A1L 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CSNK1A1L shRNA Plasmid (h): sc-105247-SH and CSNK1A1L shRNA (h) Lentiviral Particles: sc-105247-V as alternate gene silencing products.

For independent verification of CSNK1A1L (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-105247A, sc-105247B and sc-105247C.

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

CSNK1A1L siRNA (h) is recommended for the inhibition of CSNK1A1L 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 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 CSNK1A1L gene expression knockdown using RT-PCR Primer: CSNK1A1L (h)-PR: sc-105247-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.

PROTOCOLS

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