SANTA CRUZ BIOTECHNOLOGY, INC.

C7 siRNA (m): sc-141922

BACKGROUND

The complement cascade is a multi-protein system that functions to clear pathogens from an infected host. Part of the innate (unchanging) immune system, the complement cascade consists of proteins and inactive zymogens that are present in blood and are stimulated by one of several triggers. Once stimulated, the cascade relays amplified responses throughout the body, ultimately activating the cell-killing membrane attack complex which can insert itself into the cell membrane and cause the cell to lyse. C7 (complement component 7) is an 843 amino acid secreted protein that participates in the formation of membrane attack complex (MAC), a complex that forms pores in the plasma membrane of target cells for innate and adaptive immune responses. As a membrane anchor, C7 exists as a monomer or dimer and can form multimeric rosettes with C5. C7 defects are the cause of component C7 deficiency (C7D), characterized by recurrent bacterial infections caused by *Neisseria meningitidis*.

REFERENCES

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2. DiScipio, R.G., et al. 1988. The structure of human complement component C7 and the C5b-7 complex. J. Biol. Chem. 263: 549-560.
3. Würzner, R., et al. 1990. C7*9, a new frequent C7 allele detected by an allotype-specific monoclonal antibody. Complement Inflamm. 7: 290-297.
4. Coto, E., et al. 1991. DNA polymorphisms and linkage relationship of the human complement component C6, C7, and C9 genes. Immunogenetics 33: 184-187.
5. Alvarez, V., et al. 1995. Genetic detection of the silent allele (*Q0) in hereditary deficiencies of the human complement C6, C7, and C9 components. Am. J. Med. Genet. 55: 408-413.
6. Fernie, B.A., et al. 1998. Complement C7 deficiency: seven further molecular defects and their associated marker haplotypes. Hum. Genet. 103: 513-519.
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CHROMOSOMAL LOCATION

Genetic locus: C7 (mouse) mapping to 15 A1.

PRODUCT

C7 siRNA (m) 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 C7 shRNA Plasmid (m): sc-141922-SH and C7 shRNA (m) Lentiviral Particles: sc-141922-V as alternate gene silencing products.

For independent verification of C7 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-141922A, sc-141922B and sc-141922C.

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

C7 siRNA (m) is recommended for the inhibition of C7 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 C7 gene expression knockdown using RT-PCR Primer: C7 (m)-PR: sc-141922-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.