

siRNAs: *in vitro* activity against SARS virus

Small interfering (si)RNAs that target the replicase 1A region of the SARS*-associated coronavirus genome have demonstrated *in vitro* activity, report researchers from China.

Monkey kidney cells were transfected with one of six 21-mer siRNAs targeting different sites of the replicase 1A region of the SARS coronavirus genome (SARSi-1, -2, -3, -4, -5, and -6), an unrelated siRNA, or the medium. After 8 hours of incubation, the cells were infected with the GZ50 strain of the SARS virus.

At 36 hours after infection, the cytopathic effects of the SARS virus were markedly reduced by SARSi-2, -3, and -4, and less so by SARSi-1, -5, and -6. Furthermore, viral genomic RNA copies were reduced by 89.6%, 85.8%, and 92.5% in cells transfected with SARSi-2, -3, and -4, respectively, and by 50–65% in cells transfected with SARSi-1, -5, and -6.

Transfection of cells with combinations of the SARSiS was also effective, although no synergistic effects were apparent. In a final experiment, SARSi-2, -3, and -4 inhibited the GZ34, HKR1, and HKR2 strains on the SARS virus with comparable efficacies to those seen for the GZ50 strain.

* severe acute respiratory syndrome

He M-L, et al. Inhibition of SARS-associated coronavirus infection and replication by RNA interference. JAMA: the Journal of the American Medical Association 290: 2665-2666, 26 Nov 2003 800943757