

Supplementary Table S1. Small interfering RNAs (siRNAs) efficiently targeting HIV-1 RNA.

| References | siRNA sequence* (5' → 3') | HIV-1 target gene/region | Cellular HIV-1 model | Effects |
|--------------------------|--|---------------------------|--|---|
| Lee et al., 2002 | gcgagagacagcgacaagagcuu ^V | <i>rev</i> | 293 + pNL4.3, or | ↓ p24 level |
| | gccugugccuucagcuaccuu ^V | <i>rev</i> | 293/rev-EGFP | ↓ RNA level, ↓ EGFP level |
| Novina et al., 2002 | gauuguacuagagagacaggu ^S | <i>gag</i> | HeLa/CD4 + pNL4.3 | ↓ p24 level |
| Jacque et al., 2002 | Various ^{S,V} | <i>vif, nef, 5'LTR</i> | HeLa/CD4 + pNLGFP | ↓ HIV-1 RNA level and production |
| Coburn and Cullen, 2002 | cugcuuguaccaauugcua(dt)(dt) ^S | <i>tat</i> | 293T + pcTat | ↓ Tat level |
| | cggauccuuagcacuuauuc(dt)(dt) ^S | <i>rev</i> | 293T + pcRev | ↓ Rev level |
| | cugcuuguaccaauugcua(dt)(dt) ^S | <i>tat + rev</i> | 293T/CD4/CCR5 + NL-ADA | ↓ HIV-1 RNA level |
| | + cggauccuuagcacuuauuc(dt)(dt) ^S | | 293T/CD4/CCR5 + NL-ADA/VSV-G | ↓ p24 level |
| Capodici et al., 2002 | gagaaccaaggggaagugaca(dt)(dt) ^S | <i>gag</i> | 293T + TEV-gag mRNA | ↓ p24 level |
| | gggcaagcagggagcuagaac ^S | <i>gag</i> | U87/4/CCR5 + Ba-L strain | ↓ p24 level |
| | | | CD4 ⁺ T cells + Ba-L strain | ↓ gag RNA level, ↓ p24 level |
| Surabhi and Gaynor, 2002 | uauggcaggaagaagcgga ^S cuagagcccuggaagcauc ^S gaagcggagacagcgacga ^S | <i>tat</i> | MAGI + pTat-GFP MAGI + NL4.3 | ↓ Tat-GFP level ↓ tat RNA level, ↓ p24 level |
| | gagacaccagggauuagau(dt)(dt) ^S | RT | MAGI + NL4.3 | ↓ HIV-1 RNA level, ↓ p24 level |
| | ugagacaccagggauuaga(dt)(dt) ^S | | | |
| Boden et al., 2003 | cugcuuguaccaauugcua(dt)(dt) ^{S,V} | <i>tat</i> | 293T + pNL4.3 | ↓ p24 level |
| Das et al., 2004 | gugccuggcuagaagcacauu ^V | <i>nef</i> | SupT1 T cells + HIV _{LAI} | ↓ p24 level |
| Han et al., 2004 | gguggcgcccgaacagggaccuu ^{S,V} | PBS | SupT1 T cells + NL4.3 | ↓ p24 level |
| Dave and Pomerantz, 2004 | Various ^S | <i>tat, rev, nef</i> | HeLa/CD4 + NL4.3 | ↓ HIV-1 RNA level, ↓ p24 level |
| | | | 293T + NL4.3, YU-2 or JR-CSF | ↓ p24 level |
| Boden et al., 2004 | shRNA and miRNA | <i>tat</i> | 293T + NL4.3 | ↓ p24 level, ↓ HIV-1 RNA |
| Chang et al., 2005 | Various ^V | <i>gag, pol, int, vpu</i> | Cells? + NL4.3, 89.6 or 90CF402.1.8 | ↓ HIV-1 replication |
| Huelsmann et al., 2006 | ucaauacguggauguuugua ^S | RT (M184V) | CEMx174 + NL4.3 (WT, M184V, M184I) | ↓ p24 level |

* Only the sense strand is shown; ^S, synthetic siRNA duplexes; ^V, vector-derived siRNAs; LTR, long terminal repeat; PBS, primer binding site; RT, reverse transcriptase; d, desoxyribonucleotide. HIV-1 replication is estimated in most cases by measuring p24 protein levels.

Supplementary References

- Boden, D., Pusch, O., Lee, F., Tucker, L. and Ramratnam, B. (2003) Human immunodeficiency virus type 1 escape from RNA interference. *J Virol*, **77**, 11531-11535.
- Boden, D., Pusch, O., Silbermann, R., Lee, F., Tucker, L. and Ramratnam, B. (2004) Enhanced gene silencing of HIV-1 specific siRNA using microRNA designed hairpins. *Nucleic Acids Res*, **32**, 1154-1158.
- Capodici, J., Kariko, K. and Weissman, D. (2002) Inhibition of HIV-1 infection by small interfering RNA-mediated RNA interference. *J Immunol*, **169**, 5196-5201.
- Chang, L.J., Liu, X. and He, J. (2005) Lentiviral siRNAs targeting multiple highly conserved RNA sequences of human immunodeficiency virus type 1. *Gene Ther*, **12**, 1133-1144.
- Coburn, G.A. and Cullen, B.R. (2002) Potent and specific inhibition of human immunodeficiency virus type 1 replication by RNA interference. *J Virol*, **76**, 9225-9231.
- Das, A.T., Brummelkamp, T.R., Westerhout, E.M., Vink, M., Madiredjo, M., Bernards, R. and Berkhout, B. (2004) Human immunodeficiency virus type 1 escapes from RNA interference-mediated inhibition. *J Virol*, **78**, 2601-2605.
- Dave, R.S. and Pomerantz, R.J. (2004) Antiviral effects of human immunodeficiency virus type 1-specific small interfering RNAs against targets conserved in select neurotropic viral strains. *J Virol*, **78**, 13687-13696.
- Han, W., Wind-Rotolo, M., Kirkman, R.L. and Morrow, C.D. (2004) Inhibition of human immunodeficiency virus type 1 replication by siRNA targeted to the highly conserved primer binding site. *Virology*, **330**, 221-232.
- Huelsmann, P.M., Rauch, P., Allers, K., John, M.J. and Metzner, K.J. (2006) Inhibition of drug-resistant HIV-1 by RNA interference. *Antiviral Res*, **69**, 1-8.

- Jacque, J.M., Triques, K. and Stevenson, M. (2002) Modulation of HIV-1 replication by RNA interference. *Nature*, **418**, 435-438.
- Lee, N.S., Dohjima, T., Bauer, G., Li, H., Li, M.J., Ehsani, A., Salvaterra, P. and Rossi, J. (2002) Expression of small interfering RNAs targeted against HIV-1 rev transcripts in human cells. *Nat Biotechnol*, **20**, 500-505.
- Novina, C.D., Murray, M.F., Dykxhoorn, D.M., Beresford, P.J., Riess, J., Lee, S.K., Collman, R.G., Lieberman, J., Shankar, P. and Sharp, P.A. (2002) siRNA-directed inhibition of HIV-1 infection. *Nat Med*, **8**, 681-686.
- Surabhi, R.M. and Gaynor, R.B. (2002) RNA interference directed against viral and cellular targets inhibits human immunodeficiency Virus Type 1 replication. *J Virol*, **76**, 12963-12973.