



PATENT PENDING

multivalent siRNA

[MV-siRNA]

SINGLE MOLECULE, MULTI-SITE RNA INTERFERENCE

FEATURES:

- Silence one gene at up to three sites
- Silence more than one gene
- No sense-strand based 'Off-Target' effects
- Available in pSUPER-MV, pSUPER-DV Forms
- Available as Synthetic complexes
- Easily designed at Oligoengine





Introduction

Figure I:

We have recently showed that a di-valent MV-siRNA molecule against HIV's GAG and TAT genes was significantly more efficient HIV inhibition in inhibiting HIV replication than an siRNA by MV-siRNA directed against Gag.

> At 10 days post transfection, the inhibition of HIV replication by the di-valent MV-siRNA was about 3 times more important than the one obtained with the siRNA molecule.



These results suggest that the slencing efficiency of each MV-siRNA strand is superior to the one of an siRNA molecule. Further studies will be performed to determine how a tri-valent MV-siRNA molecule compares to three independent siRNAs in terms of silencing efficiency.

Triple siRNA potency, reduce off-target

Multivalent siRNA [MV-siRNA] provides 3-in-1 siRNA capabilities for multisite RNA interference. A single MV-siRNA can supress one gene at several sites, or suppress multiple genes all at once. This new design enables greater potency than single siRNA, removes off-target elements, and replaces older 'pooling' methods of traditional siRNA.

: the molecule

MV-siRNA is composed of three RISC-loading RNA guide strands. Each RNA strand is parially complimentary to the next, and form the three siRNA-like arms of MV-siRNA complex. Each arm of MV-siRNA contain a specific 3' signal to initiate loading onto RISC.



: the mechanism

MV-siRNA function similiarily to siRNA by guiding endonucleic activity via RISC, but MV-siRNA triple the RISC mechanism. Each MV-siRNA arm is able to load into RISC and guide the eventual catalysis of the target site. The three guide strands of MV-siRNA can be designed against multiple sites on a single gene or single sites on multiple genes- a novel function of MV-siRNA.



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MV-siRNA are available at: WWW.OLIGOENGINE.COM

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