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Abstract

Lipid-Oligonucleotide Conjugates Forming G-Quadruplexes (Lipoquads) as Potent Inhibitors of HIV Entry †

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Molecules that block virus entry by interfering with the actions of viral fusion proteins are of primary concern in the search for antiviral drugs. We present here the synthesis and antiviral activities of lipid–oligonucleotide conjugates (Lipoquads) forming a highly stable tetramolecular parallel G-quadruplex. We show that these molecules block HIV-1 and HIV-2 entry with submicromolar activities, demonstrating the great advantage of targeting both viral envelope glycoprotein and lipid rafts—a key platform in virus entry. Because the behavior of envelope proteins is similar in several other enveloped viruses, Lipoquads may have broader activities against enveloped viruses.

Supplementary Materials: The following are available online at www.mdpi.com/2504-3900/1/6/670/s: Poster S: Lipid-Oligonucleotide Conjugates Forming G-Quadruplex (Lipoquads) as Potent Inhibitors of HIV Entry.

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Conflicts of Interest: The authors declare no conflicts of interest