

## Oral Session IV

### Viral Inhibitors and Drug Resistance

69

#### *In vitro* Anti-HIV Activity of Phosphorothioate $\alpha$ -Anomeric Oligodeoxynucleotide

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We have precedently designed a new series of oligos of unnatural  $\alpha$  configuration which fulfills the requirements to be used as antisense. Preliminary data have shown that such  $\alpha$  antisense could inhibit initiation of translation when targeted on a non coding region of a mRNA. We will demonstrate that the introduction of S atoms on the phosphate backbone of  $\alpha$  oligos ( $\alpha$ -S-oligos) induces significant anti-HIV activity. Particularly, it will be shown that  $\alpha$ -S-oligos block the infection of cells that are yet uninfected ("*de novo*" infection) and that a  $\alpha$ -S-antisense, design to be complementary to the initiation codon region of the mRNA coding for the regulatory *rev* protein inhibits specifically the expression of HIV in chronically infected cells at non toxic doses. The fact that such  $\alpha$ -S-oligos are as active as the corresponding ones of natural  $\beta$  configuration, raises the question of the exact role of the introduction of the sulfur atoms on the oligos backbone.