

Electronic supplementary information (ESI)

The Antisense Oligonucleotides with Oxetane-constrained Cytidine Enhances Heteroduplex Stability, Elicit Satisfactory RNase H Response as well as Show Improved Resistance to Both Exo and Endonucleases

Pushpangadan. I. Pradeepkumar, Nariman V. Amirkhanov and Jyoti Chattopadhyaya*

Department of Bioorganic Chemistry, Box 581, Biomedical Center,
University of Uppsala, S-75123, Uppsala, Sweden.

E-mail: jyoti@boc.uu.se, Fax: +4618554495.

Table of Contents

Autoradiograms of 20% PAGE, showing the cleavage kinetics of 5'-³²P labeled target RNA (**14**) by RNase H1 in the native AON (**1**)/RNA (**14**) and various oxetane **C** AONs (**5**, **6**, **9** and **12**)/RNA (**14**) and **T** modified AONs (**2**, **3**, **4**, **8** and **10**)/RNA (**14**) hybrid duplexes.

Figures S1- S3: RNA cleavage kinetics for single **C** AON (**5**), double **C** AON (**6**) and DPPZ conjugated double **C** AON (**9**) in different RNA concentrations (0.008-1 μ M) keeping the same AONs (5 μ M) and RNase H concentration (0.06 U in 30 μ l of reaction mixture).

Figures S4- S8: RNA cleavage kinetics for native 15mer AON (**1**), single **T** AON (**2**), double **T** AON (**3**) and triple **T** AON (**4**) in different RNA concentrations (0.01-3 μ M) keeping the same AONs (5 μ M) and RNase H concentration (0.06 U in 30 μ l of reaction mixture). The kinetics of the control native 15mer AON (**1**) and double **T**

AON (3) with 1 μ M and RNA (14) with 0.1 μ M concentration, used for the calibration of the exact RNase H concentration, were also shown.

Figures S9- S14: RNA cleavage kinetics for native 15mer AON (1), single T AON (2), double T AON (3) and triple T AON (4) in different RNA concentrations (0.01-3 μ M) keeping the same AONs (5 μ M) and RNase H concentration (0.12 U in 30 μ l of reaction mixture). The kinetics of the control native 15mer AON (1) and double T AON (3) with 1 μ M and RNA (14) with 0.1 μ M concentration, used for the calibration of the exact RNase H concentration, were also shown.

Figures S15- S23: RNA cleavage kinetics for native 15mer AON (1), 15-DPPZ AON (7), 15-3T-DPPZ AON (8), 15-3T-Cholest AON (10) and 15-2C-Cholest AON (11) in different RNA concentrations (0.01-1 μ M) keeping the same AONs concentration (5 μ M). The kinetics of the control native 15mer AON (1) with 1 μ M and RNA (14) with 0.1 μ M concentrations, used for the calibration of the exact RNase H concentration, were also shown in Figure S15.