Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Materials

Experimental

Electrophoretic mobility shift assay (EMSA)

A3G-CTD and either S_{38} or $(dA)_{38}$ were mixed in 40 μL of reaction buffer comprising 20 mM Tris-HCl (pH 7.5), 30 mM NaCl, 5 mM DTT and 10 μM $ZnCl_2$ for 30 min at 4°C. The concentrations of S_{38} and $(dA)_{38}$ were both 0.2 μM, and those of A3G-CTD were 0, 5.5, 11.0, 21.9 and 43.9 μM, respectively. Each mixture was subjected to 20% TBE polyacrylamide gel electrophoresis at 4°C. The gel was stained with SYBR Gold (Life Technologies Japan Ltd.) and then scanned with an IN-6W-CPS gel illuminator (Oriental Instruments Co., Ltd.) at the main excitation wavelength of 500 nm.

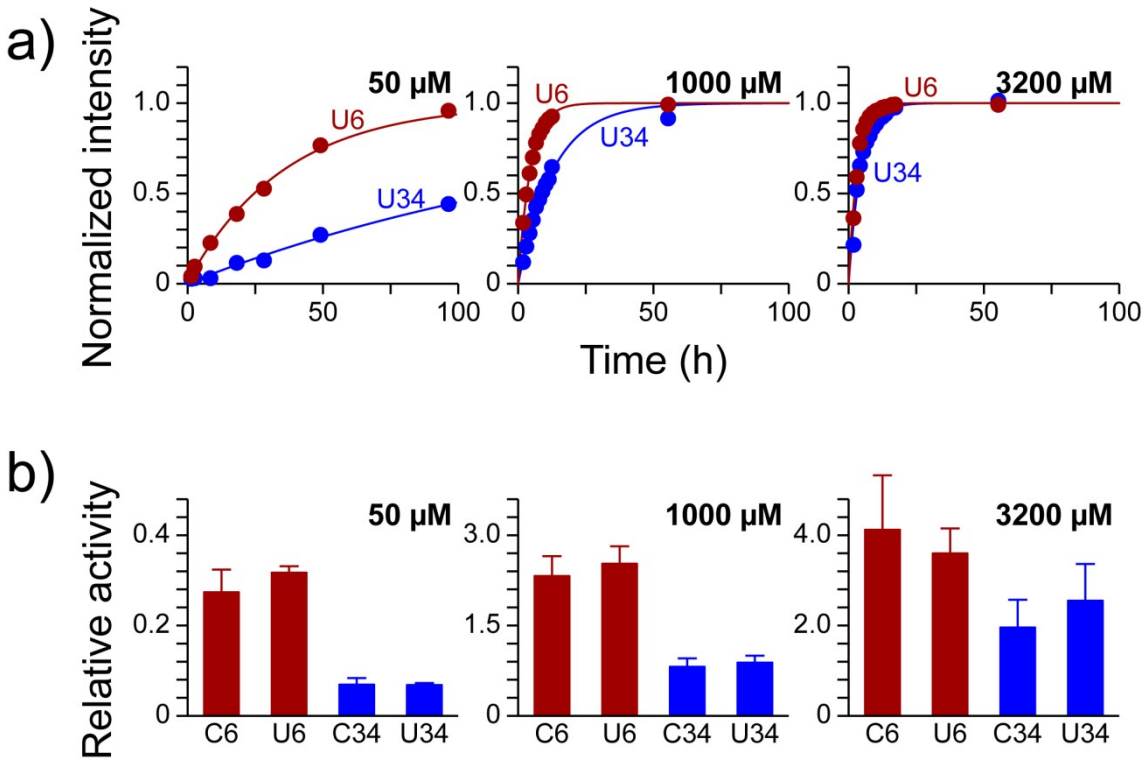

Fig S1. Comparison of the relative activities obtained from the decrease of C6 and C34 peak intensities and those from the increase of U6 and U34 peak intensities. (a) The time courses of the normalized H5–H6 peak intensities of uridines, U6 (red) and U34 (blue) for three different S_{38} concentrations, 50, 1000 and 3200 μM, respectively. The data were fitted to a single exponential function, by which the first order apparent rate constant, k_{app}, was obtained. (b) Relative activities derived from the rate constants, k_{app}, for C6, U6, C34 and U34 against the S_{38} concentrations. The S_{38} concentration is shown in each panel.

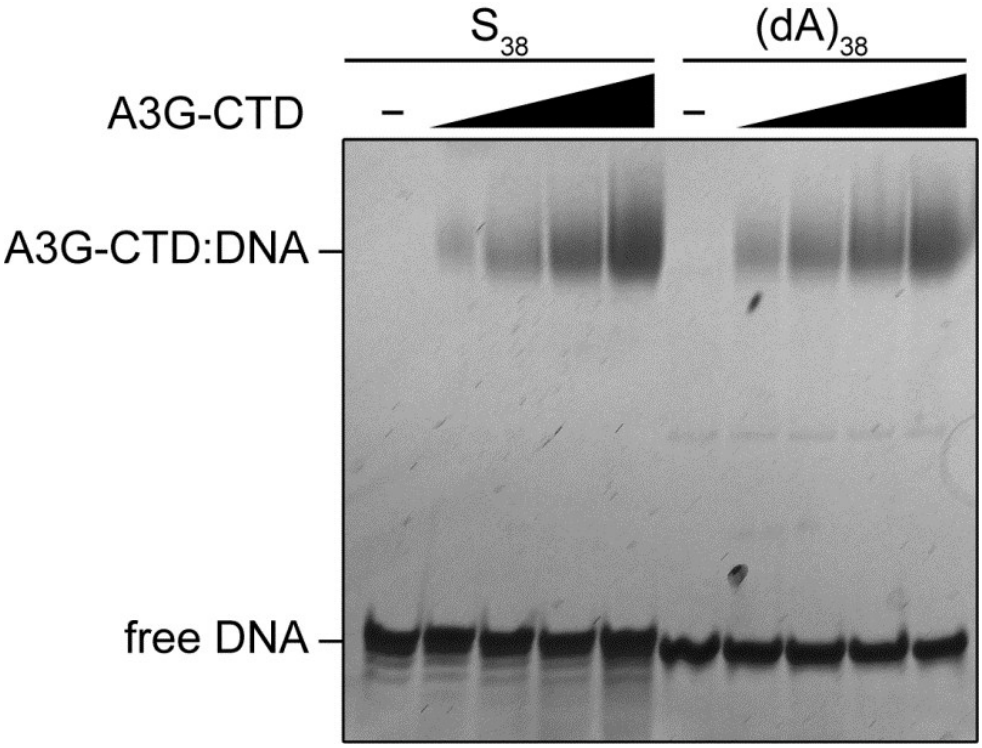

Fig S2. EMSA analysis of ssDNA binding of A3G-CTD. The concentrations of S_{38} and $(dA)_{38}$ were both 0.2 μM, and those of A3G-CTD were 0, 5.5, 11.0, 21.9 and 43.9 μM, respectively. ssDNAs were stained with SYBR Gold.