



**Figure S1.** Human MR complex (50 nM) was assayed at 37°C for 1h with equimolar Nbs1 and 10, 25, 50, 100, 250 and 500 μM ATP and 1.2 nM 1 kb linear dsDNA. The ATPase activity was calculated as mol Pi released/mol Rad50/min and plotted against ATP concentration. The data from three replicates was fit with Michaelis-Menten equation in Graphpad Prism 5 software. Error bars represent standard deviation.