

**Figure 3- figure supplement 1**

**A.**

The Kd can not be estimated with 95% confidence interval (CI).

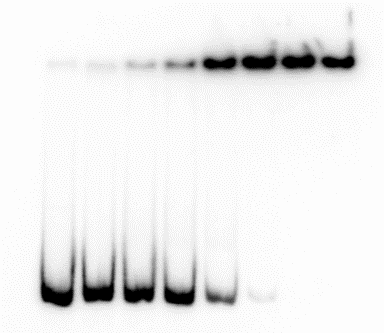
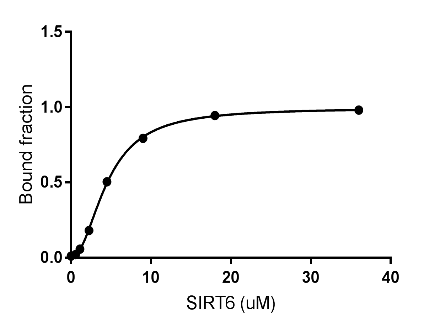
**dsDNA- Blunt Ends**

**RNA**

Kd = 4.52 ± 0.09

h = 2.07 ± 0.07

R2 = 0.9996



**0.56**

**1.13**

**2.25**

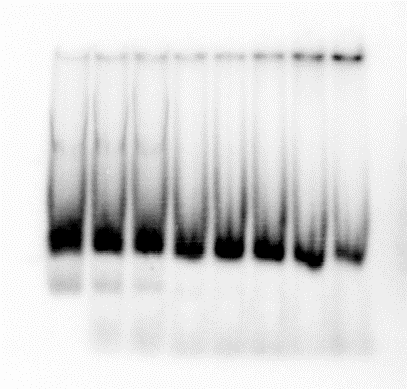
**4.5**

**9**

**18**

**36**

**0**



**0.56**

**1.13**

**2.25**

**4.5**

**9**

**18**

**36**

**0**



**C.**



**Time in min**

**0’ 10’ 20’**

**BSA**

**SIRT6**

**MRE11**

**BSA**

**SIRT6**

**MRE11**

**DNA/EtBr**



**D.**

**B.**

**F.**



**Sticky ends**

**Blunt ends**

**G.**



**E.**

**H.**

**Figure 3- figure supplement 1**

**(A)** Gel retardation assay of 32P-5’ end-labeled dsDNA with blunt ends as a function of increasing concentrations of SIRT6-His. Kd value (Kd=3.59 ± 0.17). **(B)** Gel retardation assay of 32P-5’ end-labeled RNA as a function of increasing concentrations of SIRT6-His. Kd could not have been calculated with 95% confidence interval (CI). **(C)** DNA binding ability of SIRT6-Flag, MRE11-Flag and NBS1-Flag of Circular and linear plasmids, assessed by a DNA binding assay. 3-9 experiments +/- SEM, after logarithmic transformation. **(D)** SIRT6-Flag DNA binding ability of plasmids with 3’ over-hang and 5’ over-hang assessed by a DNA binding assay. Log of averages of 3 experiments +/- SEM. **(E)** Relative amount of NAD+ remaining after consumption by SIRT6 in the presence of DNA alone or an acetylated peptide (H3K56ac). **(F-G)** Protection of sticky ended and blunt ended plasmids by BSA, SIRT6 and MRE11 against Exonuclease 1 in different time points. Averages +/- SEM of 3 experiments. **(H)** Statistical analysis of the End protection: un-cleaved DNA amounts in the presence of SIRT6 or MRE11 compared to BSA (as a control) after 0,10 or 20 min (\*=p<0.05, \*\*=p<0.005, \*\*\*=p<0.0005).