Supplementary Material

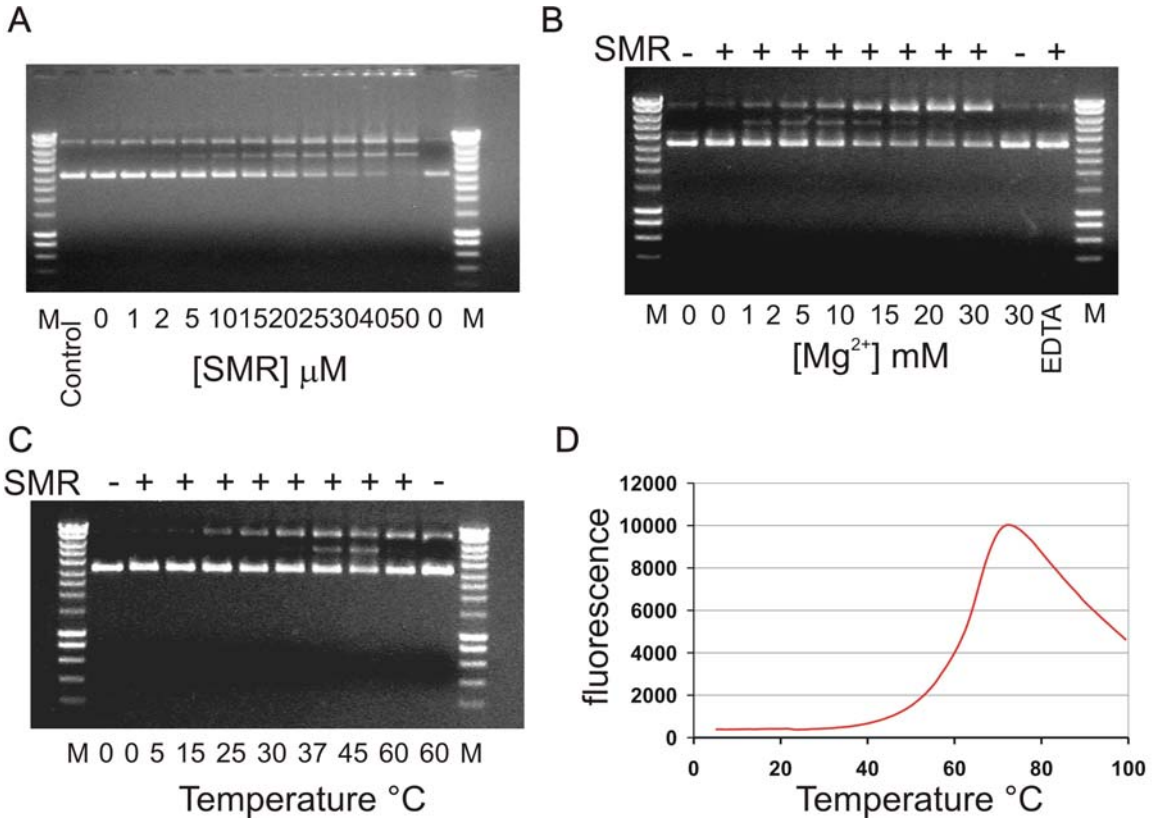

Figure 1 Nicking endonuclease activity by the N-terminally extended Smr domain of B3BP (a) Conversion of the supercoiled to open covalently closed plasmid in the presence of the indicated amount of B3BP Smr domain (Smr). -: no protein added, M: molecular weight marker, Smart ladder (Eurogentec), Control: untreated plasmid. (b) Nicking endonuclease activity requires $MgCl_2$, optimal conversion is obtained in the presence of 5-10 mM Mg^{2+}, and addition of EDTA inhibits catalysis. (c) Temperature dependence of the endonuclease activity reveals a temperature optimum at approximately 45 ^{o}C. (d) Thermofluor analysis, where relative fluorescence signal is plotted as a function of temperature for the B3Bp Smr domain.

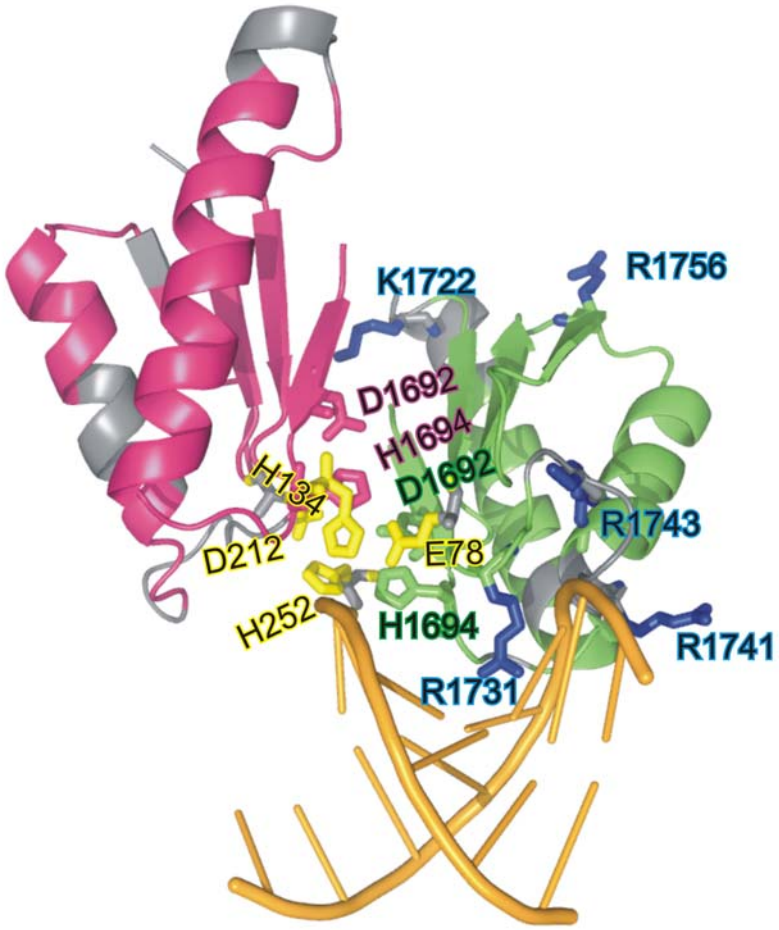

Figure 2 Proposed model for DNA-induced Smr domain dimer formation based on structural similarity between the Smr domain structure and the N and C-terminal domains of DNaseI.

Based on the structural similarities between the B3BP-Smr domain and the N- and C-terminal domains of DNaseI bound to DNA (2DNJ) a putative model is presented how B3BP-Smr domain might bind to DNA. Residues shown to contribute to DNA binding are in blue (for clarity only for one protomer of the Smr domain), presented as sticks. The Catalytic residues of DNaseI are presented as yellow sticks and the most conserved D1692 and H1694 are presented as green and red sticks for the two protomers.