

Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition (Springer Theses)



Using a novel approach that combines high temporal resolution of the laser T-jump technique with unique sets of fluorescent probes, this study unveils previously unresolved DNA dynamics during search and recognition by an architectural DNA bending protein and two DNA damage recognition proteins. Many cellular processes involve special proteins that bind to specific DNA sites with high affinity. How these proteins recognize their sites while rapidly searching amidst ~3 billion nonspecific sites in genomic DNA remains an outstanding puzzle. Structural studies show that proteins severely deform DNA at specific sites and indicate that DNA deformability is a key factor in site-specific recognition. However, the dynamics of DNA deformations have been difficult to capture, thus obscuring our understanding of recognition mechanisms. The experiments presented in this thesis uncover, for the first time, rapid (~100-500 microseconds) DNA unwinding/bending attributed to nonspecific interrogation, prior to slower (~5-50 milliseconds) DNA kinking/bending/nucleotide-flipping during recognition. These results help illuminate how a searching protein interrogates DNA deformability and eventually stumbles upon its target site. Submillisecond interrogation may promote preferential stalling of the rapidly scanning protein at cognate sites, thus enabling site-recognition. Such multi-step search-interrogation-recognition processes through dynamic conformational changes may well be common to the recognition mechanisms for diverse DNA-binding proteins.

[\[PDF\] Neuanfang im Westen: 60 Jahre Osteuropaforschung in Mainz \(Beiträge zur Geschichte der Johannes Gutenberg-Universität Mainz. Neue Folge\)](#)

[\[PDF\] Problem Gambling in Europe: Challenges, Prevention, and Interventions](#)

[\[PDF\] Its Halloween, You fraidy Mouse \(Geronimo Stilton\)](#)

[\[PDF\] The progressive movement: A non-partisan, comprehensive discussion of current tendencies in American politics \(Volume 2\)](#)

[\[PDF\] De Rooseliere Van Salency, Ofte Den Loon Der Deugdsamheyd: Opera In Vier Bedryven \(Dutch Edition\)](#)

[\[PDF\] Six Years in the Monasteries of Italy, and Two Years in the Islands of the Mediterranean and in Asia Minor, Containing a View of the Manners and ... Zante, Smyrna, \[Etc.\], with Anecdotes a](#)

[\[PDF\] The Origins of British social policy](#)

Home Journals, Academic Books & Online Media - Springer Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition Uitgever: Springer International Publishing AG How these proteins recognize their sites while rapidly searching amidst ~3 billion nonspecific Such multi-step search-interrogation-recognition processes through dynamic conformational **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Retrouvez Dynamics and Mechanism of Dna-bending Proteins in Binding Site Recognition et des millions de livres en stock sur . 2017 (20 decembre 2016) Collection : Springer Theses Langue : Anglais ISBN-10: 3319451286 **Books in Biophysics & Biological Physics - Springer** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition Nominated as an outstanding PhD thesis by the University of Illinois at **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** This thesis is affectionately dedicated to the memory of my farther . 3.1.5 Binding site recognition versus protein diffusional search 4.4.3 Rad4/XPC induced DNA bending dynamics measured using 2010, Springer: New York. **Dynamics and Mechanism of DNA-Bending Proteins in - Springer** : Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition (Springer Theses): Yogambigai Velmurugu: ??.

Dynamics and Mechanism of Dna-bending Proteins in Binding Site Find great deals for Springer Theses: Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition by Yogambigai Velmurugu (2016, **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site - Google Books Result Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** These proteins recognize their binding sites primarily by an indirect readout how DNA bending dynamics influence mismatch recognition by MutS and Dynamics and mechanism of DNA-bending proteins in binding site 2010, Eds. Mark C. Williams and L. James Maher III, Springer, New York. **Integration Host Factor (IHF)DNA Interaction - Springer** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition. Series: Springer Theses. Velmurugu, Yogambigai 2017. Price from \$99.00 **The EBSA Member Area at Springer** Yogambigai Velmurugu. Dynamics and Mechanism of DNA-Bending Proteins in Binding. Site Recognition (Springer Theses). Language: English. Pages: 316. : Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition (Springer Theses) (9783319451282): Yogambigai Velmurugu: **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** The series Springer Theses brings together a selection of the very best Ph.D. theses from impact in the field of dynamical studies of proteinDNA interactions. flexibility play in the mechanism of binding site recognition by Integration Host. **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site humans to counter these diverse lesions and keep the genome integrity. **Lesion Recognition by XPC (Rad4) Protein - Springer Link** The dynamical interactions between proteins and DNA play a central role in many of DNA-Bending Proteins in Binding Site Recognition, Springer Theses, DOI **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Book. Springer Theses. 2017. Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition Lesion Recognition by XPC (Rad4) Protein. **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition. Autoren: Velmurugu, Yogambigai. Nominated as an outstanding PhD thesis by **DNA Mismatch Repair - Springer** Springer Theses Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Nominated as an outstanding PhD thesis by the University of Illinois at unveils previously unresolved DNA dynamics during search and recognition by **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition. Authors: Velmurugu, Yogambigai. Nominated as an outstanding PhD thesis by the University of Illinois at Chicago this study unveils previously unresolved DNA dynamics during search and recognition by Read this book on SpringerLink. **Dynamics and Mechanism of DNA-Bending Yogambigai** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site this study unveils previously unresolved dna dynamics during search and recognition by an Book Origin: Switzerland Publication Year: 2016 Series: Springer Theses. **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition. Series: Springer Theses. Velmurugu, Yogambigai 2017. Price from \$99.00 **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Chapter. Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition. Part of the series

Springer Theses pp 49-90. **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition. Authors: Velmurugu, Yogambigai. Nominated as an outstanding PhD thesis by the University of Illinois at Chicago this study unveils previously unresolved DNA dynamics during search and recognition by Read this book on SpringerLink. **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Editorial Reviews. From the Back Cover. Using a novel approach that combines high temporal Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition (Springer Theses) 1st ed. 2017 Edition, Kindle Edition. **Lesion Recognition by XPC (Rad4) Protein - Springer Link** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site . Intriguingly, the recognition efficiency of these lesions can vary by **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Y. Velmurugu, Dynamics and Mechanism of DNA-Bending Proteins in Binding. Site Recognition, Springer Theses, DOI 10.1007/978-3-319-45129-9. 181 **Appendix A - Springer Link** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition - Springer Theses (Hardback). Yogambigai Velmurugu **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Booktopia has Dynamics and Mechanism of DNA-Bending Proteins in Binding Site Recognition, Springer Theses by Yogambigai Velmurugu. **Dynamics and Mechanism of DNA-Bending Proteins in Binding Site** Dynamics and Mechanism of DNA-Bending Proteins in Binding Site How these proteins recognize their sites while rapidly searching amidst ~3 billion 14 1.2.7 Competition between 1-D diffusion and binding-site recognition: the ISBN13: 9783319451282 Forlag: Springer International Publishing AG Sider: 199