



| | |
|---|---|
| Title: | Functional Dynamics in Replication Protein A DNA Binding and Protein Recruitment Domains |
| Authors: | Dorai, K. (/jspui/browse?type=author&value=Dorai%2C+K.) |
| Keywords: | Replication Protein A (RPA)<br>DNA<br>Protein |
| Issue Date: | 2015 |
| Publisher: | Cell Press |
| Citation: | Structure, 23(6) pp. 1028-1038 |
| Abstract: | Summary Replication Protein A (RPA) is an essential scaffold for many DNA processing machines; its function relies on its modular architecture. Here, we report 15N-nuclear magnetic resonance heteronuclear relaxation analysis to characterize the movements of single-stranded (ss) DNA binding and protein interaction modules in the RPA70 subunit. Our results provide direct evidence for coordination of the motion of the tandem RPA70AB ssDNA binding domains. Moreover, binding of ssDNA substrate is found to cause dramatic reorientation and full coupling of inter-domain motion. In contrast, the RPA70N protein interaction domain remains structurally and dynamically independent of RPA70AB regardless of binding of ssDNA. This autonomy of motion between the 70N and 70AB modules supports a model in which the two binding functions of RPA are mediated fully independently, but remain differentially coordinated depending on the length of their flexible tethers. A critical role for linkers between the globular domains in determining the functional dynamics of RPA is proposed |
| Description: | Only IISERM authors are available in the record. |
| URI: | https://www.sciencedirect.com/science/article/pii/S0969212615001379 (https://www.sciencedirect.com/science/article/pii/S0969212615001379)<br>http://hdl.handle.net/123456789/2876 (http://hdl.handle.net/123456789/2876) |
| Appears in Collections: | Research Articles (/jspui/handle/123456789/9) |

Files in This Item:

| File | Description | Size | Format | |
|---|---|---|---|---|
| Need to add pdf.odt (/jspui/bitstream/123456789/2876/1/Need%20to%20add%20pdf.odt) | | 8.63 kB | OpenDocument Text | View/Open (/jspui/bitstream/12345 |

Show full item record (/jspui/handle/123456789/2876?mode=full)
(/jspui/handle/123456789/2876/statistics)