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Dynamic organization of bacterial chromatin by DNA bridging proteins

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STELLINGEN

Behorend bij het proefschrift

Dynamic organization of bacterial chromatin by DNA bridging proteins

1. Every organism across the tree of life compacts and organizes its genome with architectural chromatin proteins.

   This Thesis, Chapter 1

2. The asymmetric charge distribution and the resulting intramolecular interactions are conserved among the H-NS family of proteins.

   This Thesis, Chapter 2

3. Mip interferes with the assembly of the bridged MvaT-DNA complex.

   This Thesis, Chapter 3

4. Rok solid DNA binding needs special – yet to be identified – tools for rupture.

   This Thesis, Chapter 4

5. Screening across diverse bacterial species for abundant new DNA-binding proteins that bridge DNA will reveal novel functional homologs of H-NS and is key to advance our understanding of chromatin organization in bacteria.
6. Due to their relatively short cell cycle and small size novel techniques with high spatial and temporal resolution are required to define spatio-temporal organization of bacterial chromatin.
7. The importance of post-translational modification of proteins in bacteria is currently underrated compared to that of proteins in eukaryotes.
8. Bacterial mechanisms of transcription regulation based on counter-silencing are more similar to eukaryotic mechanisms than long thought.
9. Success in a scientific career not only requires talent but also luck.
10. Cooperation accelerates scientific progress.