

Bacterial amyloids: a new way of nucleic acids structuring

Hfq is a bacterial pleiotropic regulator that mediates several aspects of nucleic acids metabolism. The protein notably influences translation and turnover of RNAs. Although most previous contributions concentrated on Hfq's interaction with RNA, its association to DNA has also been observed for years. Nevertheless, although Hfq presence in the nucleoid has been reported, its precise function is still unclear. Recently, we showed that Hfq belongs to the bridging family of Nucleoid Associated Proteins (NAPs). Its bridging mechanism relies on the formation of an amyloid-like structure, mediated by the C-terminal region of the protein. Various experimental methodologies, including cellular and molecular microscopy, neutron scattering and synchrotron radiation circular dichroism, provide evidence regarding Hfq's role in DNA structuring. Results will be discussed in relation with the function of the protein in fundamental cellular processes.

Auteurs principaux: TURBANT, Florian (LLB UMR 12 CEA CNRS CEA Saclay); Dr TREPOUT, Sylvain (Institut Curie); COSSA, Antoine (CEA Saclay et Institut Curie); Dr VAN DER MAAREL, Johan (National University of Singapore); Dr VELEZ, Marisela (CSIC Madrid); Dr WIEN, Frank (synchrotron SOLEIL); Dr ARLUISON, Veronique (Université de Paris)

Orateur: Dr ARLUISON, Veronique (Université de Paris)