

CONFÉRENCE

« Conférence prononcée en anglais – Lecture given in English »

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Cell wall turnover regulation in *Vibrio cholerae*

The bacterial cell wall fulfills essential roles in the maintenance of cell shape and structural integrity. Its main component, peptidoglycan, is constantly synthesized and turned over during normal growth, and disturbing this process, for example by exposure to antibiotics, typically has lethal consequences for bacteria. While intensive research efforts have been directed towards cell wall synthesis, we currently lack a thorough understanding of how cell wall turnover processes are regulated. Our work focuses on the role of endopeptidases (EPs) and lytic transglycosylases (LTGs) in cell wall turnover during cell elongation in the cholera pathogen *Vibrio cholerae*. We have found that EPs are regulated by dramatic conformational changes and engage in complex functional interactions with cell wall synthases, ultimately promoting the proper insertion of new PG material into the growing sacculus. The majority of LTGs, on the other hand, do not seem to contribute to PG synthesis directly, but rather clear up turnover products that otherwise accumulate and negatively affect synthesis processes indirectly. These results have important implications for understanding how cell wall turnover processes promote proper cell elongation and maintenance of cell shape.

**Jeudi 29 avril 2021 à 10h30
Diffusion en ligne via la plateforme Zoom**

<https://umontreal.zoom.us/j/82442031735?pwd=amhLN2cwUFAR3dXM1hLMG9wZUZjdz09>

Meeting ID: 824 4203 1735

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