Articles of Significant Interest in This Issue

A Multiprotein Complex Anchors Adhesive Holdfast at the Outer Membrane of *Caulobacter crescentus*

Holdfast is a polysaccharide adhesin that mediates surface attachment of *Caulobacter crescentus*. Using electron cryotomography, Sulkowski et al. (e00112-19) reveal that the protein complex HfaABD that anchors holdfast at the *C. crescentus* stalk tip spans the outer membrane. Cellular ultrastructure analysis showed that HfaB is the major component of the anchor complex located on the periplasmic side of the outer membrane, while HfaA and HfaD localize at the cell surface underneath the surface layer. This study establishes the basis for future structural biology studies on holdfast polysaccharide-mediated adhesion.

Insights on the Contribution of Adhesins to *Bacteroides thetaiotaomicron* Biofilm Formation

Although the gut anaerobe *Bacteroides thetaiotaomicron* is a prominent member of the healthy human gut microbiota, little is known on its capacity to adhere to surfaces and form biofilms. Mihajlovic et al. (e00650-18) demonstrate the widespread ability of *B. thetaiotaomicron* to form a biofilm and show that alteration of a surface-exposed structure displaying homology with Mfa-like type V pili found in many *Bacteroidetes* species mediates *B. thetaiotaomicron* adhesion *in vitro*. This work provides a better understanding of *B. thetaiotaomicron* adhesins and lays the ground for *in vitro* and *in vivo* study of biofilm-related phenotypes in this intestinal symbiont.

Probing Chemical and Physical Characteristics That Drive Interactions within a Dual-Species Biofilm

The soil environment fosters extraordinary microbial diversity. These microbes often interact, likely forming complex multispecies biofilms. *Bacillus subtilis* and *Pantoea agglomerans* are two organisms that are found in the soil and colonize plant roots. Yannarell et al. (e00670-18) determined that in coculture *B. subtilis* and *P. agglomerans* form a highly wrinkled biofilm structure that requires complementary matrix products from both species, which influences its overall viscoelastic behavior. The two species localized to specific regions of the biofilm, impacting survival in response to antibiotic treatment. These results suggest there are novel aspects of the formation and function of multispecies biofilm structures.