

IS1-5

## Microbe-Host Interactions: Molecules that Matter for Bifidobacteria

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Specific members of the genus *Bifidobacterium* are prevalent commensals of the (lower) gut of humans and other mammals, where they are believed to support host health. This presentation will highlight some of the molecules with which bifidobacteria interact with their host. Specifically, microbe-host interactions that involve bifidobacterial pili and exopolysaccharides (EPS) will be discussed. Two types of pili are commonly produced by bifidobacteria, i.e. sortase-dependent and Tad IV pili, the latter of which has been shown to be highly conserved among bifidobacteria and essential for colonization, while also eliciting a specific host response. EPS is produced by many, but not all bifidobacteria, and based on comparative genomics it may differ in chemical composition between strains and species. EPS has been shown to be responsible for multiple distinct microbe-host interactions, which are likely to be species- and/or strain-specific. The discussed findings show that bifidobacteria can interact in a wide variety of ways with their host and that such interactions are strain-specific, which may guide the selection process for future probiotics.