**CDI and Rhs/WapA systems target tRNA to inhibit bacterial growth**

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Bacterial contact-dependent growth inhibition (CDI) is mediated by the CdiA/CdiB family of two-partner secretion proteins. CDI systems deliver a variety of toxins, which comprise the polymorphic C-terminal region of CdiA (CdiA-CT). Biochemical and structural studies have revealed that many CdiA-CT toxins have specific tRNase activities. CdiA-CTs that target the anticodon loop, T-loop and aminoacyl-acceptor stem have been identified from *Escherichia coli* and *Burkholderia pseudomallei* strains. Moreover, the functionally analogous Rhs/WapA protein family also carries a variety of C-terminal toxins, with the WapA-CTs from *Bacillus subtilis* strains exhibiting distinct tRNase activities. Here, we describe recent biochemical and structural insights into CdiA-CT and WapA-CT tRNases. Because CDI and Rhs/WapA systems confer a significant growth advantage to bacteria, the selective pressure of inter-cellular competition likely drives toxin diversification.