

Publication

Heterogeneity of Salmonella-host interactions in infected host tissues

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 3933775**Author(s)** Bumann, Dirk; Cunrath, Olivier**Author(s) at UniBasel** [Bumann, Dirk](#) ; [Cunrath, Olivier](#) ;**Year** 2017**Title** Heterogeneity of Salmonella-host interactions in infected host tissues**Journal** Current Opinion in Microbiology**Volume** 39**Pages / Article-Number** 57-63**Mesh terms** Animals; Anti-Bacterial Agents, pharmacology; Disease Models, Animal; Host-Pathogen Interactions; Mice; Salmonella; Salmonella Infections

Infected host tissues have complex anatomy, diverse cell types, and dynamic inflammation. Traditional infection biology approaches largely ignore this complex host environment and its impact on pathogens, but recent single-cell technologies unravel extensively heterogeneous host-pathogen interactions in vivo. Salmonella are major model pathogens in this field due to the availability of excellent mouse disease models and facile molecular biology. The results show how Salmonella stochastically vary their virulence, exploit differential nutrient availability, experience and respond to widely varying stresses, and have disparate fates ranging from vigorous proliferation to eradication within the same host tissue. Specific Salmonella subsets drive disease progression, while others persist during antimicrobial chemotherapy. Further elucidation of the underlying mechanisms could provide a basis for improved infection control.

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