

Poster Presentation

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Structural and functional studies of Salmonella effector proteins

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Gram-negative bacteria of the *Salmonella enterica* species are ubiquitous facultative intracellular pathogens one of the most infective in humans, causing diseases from gastroenteritis to typhoid fever. *Salmonella* secretes a range of proteins called effectors to gain entry and colonize the host cell. These effectors are secreted by type 3 secretion system. Upon endocytic internalization by the host cell the bacterium resides in a membrane-bound compartment – the *Salmonella* containing vacuole (SCV). The effector proteins prevent conversion of SCV into lysosomes and promote bacterial survival and replication within this compartment. The function of effectors varies from interfering protein synthesis and host cell signaling pathways, mediating vesicle traffic to rearranging actin cytoskeleton. We have undertaken studies of several effectors from *Salmonella enterica* serovar Typhimurium, such as SopD2, GtgE and SpvB, to understand their mechanism of action at the molecular level. We have expressed and purified these proteins and undertaken their crystallization. We will present our most recent results.

Keywords: *Salmonella*, effector