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Title:	Role of Arl8b interacting proteins in Salmonella enterica serovar Typhimurium pathogenesis in HeLa cell
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Abstract:	Upon entering inside the non-phagocytic HeLa cells, the intracellular pathogen Salmonella enterica serovar Typhimurium replicates and survives in a membrane-bound compartment called Salmonella containing vacuole (SCVs). Before the onset of intracellular replication, the bacterium adapts to the host cellular environment via interacting with the compartments of endolysosomal pathway. The various compartments of this pathway are decorated with proteins like Rab5, EEA1, Rab7, LAMP1, LAMP2, etc. which are also found on the membranes of SCVs according to their maturation phase. SCV interacts selectively with a heterogeneous population of late endosomes and lysosomes for nutrient and membrane acquisition. Lysosomal small GTP-binding protein, Arl8b has also been observed to be present on SCVs and network of tubules that emanates out of SCVs which are known as Salmonella induced filaments (Sifs). Arl8b and its effectors have a role in lysosomal positioning and cargo trafficking and are also found to be part of Salmonella pathogenesis. Recently, our lab has identified one of the proteins which belong to the family of RUN and FYVE domain proteins as an interacting partner of Arl8b. In this project, we have tried understanding the role of this interacting partner of Arl8b in the pathogenesis of Salmonella enterica serovar Typhimurium. Our findings indicate that this protein have a role in the extension of Salmonella induced filaments (Sifs). Since the Sifs are very essential for bacteria for their pathogenesis, this protein might have a role in the intracellular replication of bacteria that we need to investigate in future studies.
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