

Bacterial Strategies for Escaping the Bactericidal Mechanisms by Macrophage

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Phagocytosis with macrophages provides a specialized mechanism for regulated ingestion and intracellular destruction of bacteria. Bacteria are first engulfed by endocytosis into a phagosome. Fusion of phagosomes and lysosomes releases toxic products that kill most bacteria and degrade them into fragments. Debris from dead bacteria is then released by exocytosis. However, some bacteria that survive within host phagocytes have evolved strategies to escape the bactericidal mechanisms associated with phagocytosis: (i) antiphagocytosis (*Yersinia*) (ii) escaping from the phagosome into cytoplasm (*Listeria*), (iii) remodeling their phagosome by inhibiting the maturation of phagosomes (*Salmonella*, *Mycobacterium*, *Legionella*). In this talk, first, various strategies by bacteria to avoid the phagocytosis will be overviewed by emphasizing the steps that have been subverted by bacteria. Then, the mechanisms for surviving the phagocytosis by *Salmonella*, that is induction of macrophage-apoptosis and remodeling the phagosome, will be presented.