Complementing Pathogens or Structural Insights into Pathogen Evasion of the Complement System

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The innate immune system is the body's first line of defense against infection acting to destroy and remove anything perceived as foreign. To cause prolonged disease a pathogen must evade this defense. We are using structural methods to study pathogen systems which act to evade innate immunity in a variety of ways (i) the complement regulator acquiring surface proteins [1] of *Borrelia burgdorferi* (ii) complement regulatory proteins secreted in the saliva of soft ticks and (iii) the type three secretion system of *Shigella flexneri* [2] used to facilitate entry of the bacterium into host cells, so hiding it from the immune system. Recent data will be presented.

[1] Cordes F., Roversi P., et al., *Nat. Struct. Molec. Biol.*, 2005, doi: 10.1038/nsmb902. [2] Cordes F., et al., *J. Biol. Chem.*, 2003, **278**, 17103-7.

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