Tina Koch (née Enghardt)

Complement evasion of human pathogenic microorganisms

The complement system, an important part of the innate immunity, is aimed to recognize and eliminate pathogenic microorganisms. However many human pathogens have developed diverse mechanisms to evade human complement attack. One major strategy is the binding of human plasma proteins to their surface to regulate different steps in the complement cascade. This work is focusing on CFHR5, a member of the factor H protein family and Apolipoprotein E, a transporter of cholesterol and other lipids. While it is known that CFHR5 has regulatory functions, the role of Apolipoprotein E in the complement system is still unidentified. Therefore the function of Apolipoprotein E is investigated. Further it is studied whether CFHR5 and Apolipoprotein E are used by pathogenic microorganisms for complement evasion.

Publications

Koch TK, Reuter M, Barthel D, Böhm S, van den Elsen J, Kraiczy P, Zipfel PF, Skerka C (2012) *Staphylococcus aureus* proteins Sbi and Efb recruit human plasmin to degrade complement C3 and C3b. *PLoS One* 7(10), e47638. Details PubMed

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