DSV Seminars 2018

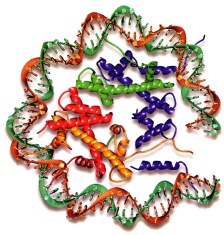
UNIVERSITÀ DEGLI STUDI DI TRIESTE

DIPARTIMENTO DI SCIENZE DELLA VITA

PhD Program in Molecular Biomedicine

Wednesday, 9 October 2018 - 11:30

Seminar room, I floor, Q Building – Via Giorgieri 5



Prof. Neil Ravenscroft

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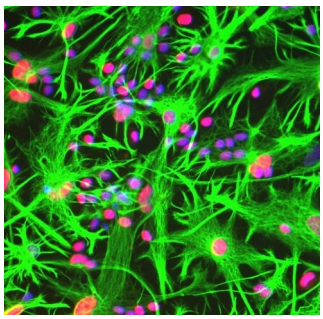
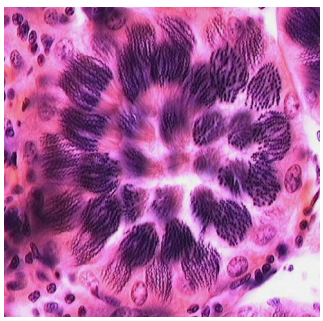


Biochemical characterization of a *Shigella* conjugate vaccine



Abstract

Shigella is one of the five main pathogens causing diarrheal disease, with high morbidity and more than 800 000 fatalities annually, mainly in young children in sub-Saharan Africa and south Asia. A low infectious dose together with increasing antibiotic resistance has made vaccine development a high priority for the World Health Organization. The Global Enteric Multicenter Study showed that broad protection can potentially be achieved with a tetravalent vaccine comprising O antigens *from S. sonnei* and *S. flexneri* 2a, 3a and 6.

The preparation of conjugate vaccines involves chemical linkage of the saccharide from the bacterial surface carbohydrate to the carrier protein. The saccharide component is either the isolated O-antigen or a synthetic oligosaccharide. Alternatively, the use of an innovative biosynthetic *Escherichia coli* glycosylation system substantially simplifies the production of conjugate vaccines and has been used to produce the *S. dysenteriae* type O1 conjugate. The preparation and biochemical analysis of a *S. flexneri* 2a conjugate vaccine currently in clinical trials will be presented.