

THE USE OF MICROBIAL POLYSACCHARIDES AS VACCINES – POSSIBILITIES, PROBLEMS AND PROSPECTS

Stefan Oscarson

Centre for Synthesis and Chemical Biology, UCD School of Chemistry and Chemical Biology,
University College Dublin, Belfield, Dublin 4, Ireland stefan.oscarson@ucd.ie

Vaccines based on bacterial capsular polysaccharides are an important part of immunization schemes all over the world. The pure polysaccharide vaccines, however, have some major drawbacks and the newly licensed vaccines are of the conjugate vaccine type, i.e. the saccharide portion is conjugated to a carrier protein, which has proven to be very effective and safe. Sometimes, however, there are problems also with this approach, e.g. lability, heterogeneity or molecular mimicry of the polysaccharide structure. A survey of existing commercial polysaccharide-based vaccines will be presented and the pros and cons of the various constructs discussed. New techniques to try to solve still existing problems will also be presented.