

Development of a broad spectrum vaccine against invasive meningococcal disease

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Abstract

Neisseria meningitidis is the major causative agent of invasive meningococcal disease. With very fast progression leading to high mortality and morbidity rates, therapeutic intervention can be too slow. Consequently prevention is highly desirable, especially in the high risk infant and adolescent groups. The wide strain variation has been a major challenge for vaccine design. Current polysaccharide conjugate vaccines are serogroup specific. Within the B serogroup, there are a number of serosubtypes and the use of the pathogen's B polysaccharide is inefficient, due to its occurrence in human brain tissue.

ImmBio, a vaccine developer based in Cambridge UK, is developing a new class of vaccines. The technology, termed ImmBioVax, in essence mimics *ex vivo* the innate responses' impact on the target pathogen. This generates a multi-protein vaccine. It is self targeting and does not require the addition of an adjuvant, as these functions are performed by constitutive proteins.

The candidate vaccine against invasive meningococcal disease, named MenBioVax, generates strong bactericidal antibody responses (SBA) across all the B serosubtypes tested, unlike other candidates, as well as across other serogroups, including A, C, W and Y. Thus it has the potential to both extend protection across B and replace other vaccines, in a single product.

Given the clinical and regulatory importance of having a well controlled, consistent and scalable production process, ImmBio has developed a range of steps and assays to establish an appropriate process, ahead of initiating human clinical studies, which will be presented

Biography

Graham has a master degree in Biophysics from King's College London and an MBA. Working first in "big Pharma" then as a partner in the Pharmaceutical & Biotechnology Practice of PA Consulting, he returned to industry as VP, Strategic Product Management, SmithKline Beecham, then Head of Executive Decision Support, GSK R&D and most recently VP, Strategy & Business Development, GE Healthcare Biosciences.

Graham joined the Board of ImmunoBiology as a non-executive director soon after its formation and was subsequently appointed its CEO in 2006