PneuGEM® against S.pneumoniae

Introduction

Protection against pneumococcal disease is critically provided by current pneumococcal conjugate vaccines (PCVs). These PCVs, however, cover a limited set of pneumococcal serotypes and feature a complicated and relatively expensive manufacturing process. New vaccines containing proteins that are common to all pneumococcal serotypes could provide broad protection and a sought-after alternative for PCV[3].

The Mucosis prefusion F antigen

Mucosis developed such vaccine technology. PneuGEM (*Fig.*) is an intranasal pneumococcal vaccine, based on a combination of conserved pneumococcal surface proteins that are relevant for colonization and virulence of Streptococcus pneumoniae, including PpmA, SlrA and IgA1-protease. For generating the PneuGEM vaccines, these proteins are produced as hybrids expressing the Protan™ linker, which is used to anchor the antigens to the BLP particles. The needle-free application of PneuGEM™ was developed to provide at least two advantages: (i) easy implementation of the vaccine in existing pediatric vaccine programs, and (ii) better protection against pneumococcal colonization reducing otitis media and other diseases caused by Streptococcus pneumoniae. What's more, the use of conserved protein antigens minimizes the risks of serotype replacement often seen with traditional PCV vaccines. Intranasal immunization with PneuGEM showed significant protection against fatal pneumococcal pneumonia in mice[4].

[3] Vaccine 34 (2016) 2959–2961

[4] Vaccine 25 (2007) 2497–2506

The transfer package

The PneuGEM technology includes:

- An extensive IPR portfolio, protecting the BLP technology, Protan linker technology and the conserved pneumococcal antigens (WO 2004/102199, granted in EU, US and multiple other countries).
- An extensive tech transfer package including procedures for production of BLPs as well as QA and QC protocols and general safety data.
- GMP grade bacterial strains.
- Preclinical immunogenicity and efficacy data.

The package is available for acquisition and for complete or partial licensing.

Company history · *Mucosis had developed vaccines for over 10 years, until the share holders discontinued financing in June 2017. The shareholders' decision was based upon the immunogenicity data of a phase I clinical trial with the Mucosis RSV vaccine, which required a new phase I study using a higher dose. The District Court of 'Noord-Nederland, locatie Groningen', the Netherlands, declared bankruptcy on June 27 and appointed Mr. R. G. Holtz LLM as trustee. On behalf of the trustee, sale of the Mucosis assets is executed by Ernst Soethout of Virtuvax BV.*

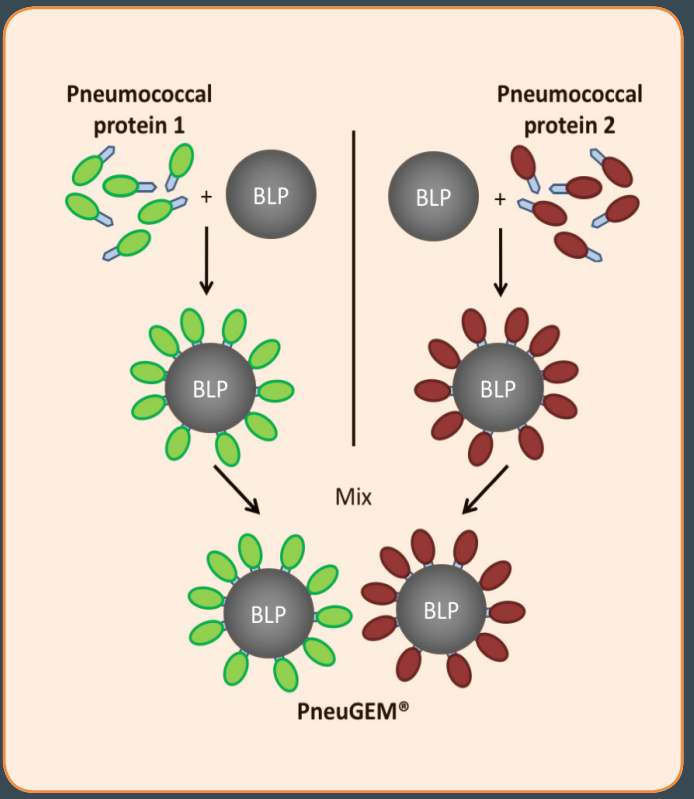

Figure: PneuGEM

The vaccine consists of mixtures of two or more conserved pneumococcal protein antigens loaded on bacterium-like particles (BLPs).

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