PEPTIDE-CARRIER Fusion Vaccines for Allergy Treatment

Next generation technology enables prophylaxis and side effect-free therapy

- Generic allergy immunotherapy platform with unrivaled safety profile
- No side-effects as observed with conventional allergy immunotherapy
- Pre-clinical proof-of-concept and first human data available.
- Phase I / II in 2011 (grass pollen allergy)
- Prophylactic application offers significant market share
- Patent protected technology

Effect of PEPTIDE-CARRIER Fusion Vaccines

The technology is based on allergen derived peptides – B-cell epitopes of 20-30 amino acids – which are fused to a non-allergic carrier protein. The peptides are not IgE reactive (hypoallergenic). Immunization with the recombinant fusion protein effectively leads to a strong allergen specific (peptide mediated) IgG response, while the T-cell help is provided by the carrier. Therefore, both types of adverse side effects observed with conventional allergy immunotherapy – IgE and T-cell mediated – are avoided.

The platform is generic and applicable to all allergies.

Pre-clinical and first-in-man results from academic studies using prototype molecules are available proving the unique safety and the prophylactic potential of the PEPTIDE-CARRIER fusion concept.

A clinical phase I/II study with a grass pollen allergy vaccine is scheduled for 2011. Molecule candidates for major allergies like birch, and cat are in pre-clinical development. A candidate for house dust mite is in the lead optimization phase.

Prophylactic Potential (Mouse Model)

Mice with prophylactic vaccination (P+/S+) before sensitisation with birch pollen allergen Bet v 1 developed significantly higher levels of protective allergen specific IgG (P<0.001) and in contrast to mice without vaccination (P-/S+), they could not be effectively sensitized as shown in an in-vitro histamine release assay (P<0.05). Focke et al. (2004) Clin Exp Allergy 34 1525-1533

Excellent safety of the peptide based vaccine demonstrated in human skin prick test: Strong reaction with wild-type Bet v 1 but absence of any skin reaction with 6 individual Bet v 1 derived peptides or a mixture of them (1-6). Data: Valenta/Focke; MUW

Potential Revolution in Allergy Immunotherapy

Allergy vaccines derived from Biomay’s PEPTIDE-CARRIER fusion technology are characterized by a unique safety profile. Adverse side effects which prevent the broad application of current extract based immunotherapy, are overcome. This enables broad therapeutic and prophylactic application – potentially even by the general practitioner – thus offering a significant increase in the market potential of allergy immunotherapy.