

CASE REPORT

DISCOVER YOUR ALLERGY (DYA)

This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF.



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Summary

The business idea is to launch an innovative service (DYA, Discover your allergies) allowing customers to exhaustively define from a drop of blood their allergological profile.

DYA will provide self diagnostic tools to people suffering for allergies, who can request the self bleeding kit on line or through pharmacies and who will mail to the reference lab a drop of a capillary blood (bleeding done at home or in pharmacies). The sample will reach the reference laboratory at San Raffaele, will be processed according to standard immunochemistry procedures and image analysis. Results expressed as specific IgE titers will be sent back to the customer via email or regular mail, (as requested by customers) and will include one layman and one professional comment as well as specific advice related to found sensitizations (e.g., strategies for allergen avoidance, possible immunotherapy, etc.). All customers will be offered the possibility to enter a personal area in the DYA web site, where further useful information will be accessible. This will include contact information for allergologist or relevant specialists living in the area where the patient is living, food suppliers with a specialization in food allergies and restaurants for allergic people, where this applies.

The DYA initiative has founded its innovation on three specific aspects: a) the absent or reduced medical intermediation between the final customer (the allergic patient) and the provider of the DYA service; b) the clinically-oriented choice of the allergen components to be included in the dedicated allergen microarray; c) the use of a high performance silicon substrate for high-sensitivity microarrays.

Technology

The DYA initiative has been developed on the basis of an innovative approach which relies on three specific aspects:

- a) the absent or reduced medical intermediation between the final customer (the allergic patient) and the provider of the DYA service;
- b) the clinically-oriented choice of the allergen components to be included in the dedicated allergen microarray;
- c) the use of a high performance silicon substrate for high-sensitivity microarrays, coated with a functional polymer named copoly (DMA-NAS-MAPS) which has been invented and patented in the Laboratory of Istituto di Chimica del Riconoscimento Molecolare (ICRM).

Lack of intermediation is granted by the possibility to directly access to the DYA service via a web-based platform, or with the support of pharmacy-based points of access.

The clinically oriented choice of allergen included in the microarray is driven by the established experience of the San Raffaele medical personnel in the performance and in the clinical interpretation of allergen-microarray based assays in one of the largest European hospital and research institute.

The use of the high performance substrate has been validated in a proof-of-principle paper which has been recently published in a peer-reviewed, international Journal (Cretich M, Breda D, Damin F, Borghi M, Sola L, Unlu SM, Burastero SE, Chiari M. Allergen microarrays on high-sensitivity silicon slides. Anal Bioanal Chem. 2010 Oct;398(4):1723-33)(impact factor for 2009: 3.48).

At present, there are no companies marketing self diagnostic kits for allergy diagnosis in Europe.

Development stage

Idea, laboratory validation, no extensive validation work.

Market/Opportunity

Roughly 20% of the population living with a "westernized" life style suffer of allergies. In addition, a proportion of non allergic individuals believe they may have allergic problems (gastrointestinal disturbances, food intolerance, etc.).

These allergic diseases include asthma; rhinitis; anaphylaxis; drug, food, and insect allergy; eczema; and urticaria (hives) and angioedema. This increase is especially problematic in children, who are bearing the greatest burden of the rising trend, which has occurred over the last two decades.

In spite of this increase, even in the developed world, services for patients with allergic diseases are fragmented and far from ideal. Very few countries have comprehensive services in this field of medicine.

Currently, 80 million people in Europe have some form of allergic disease. In particular, around 30 million people in Europe have asthma, and as many as 6 million suffer symptoms.

The full financial impact of allergic diseases to European health systems is estimated to be around €100 billion a year (source: Europrevall project).

DYA will give to this target scientifically based, state-of-the-art information about food and inhalant allergies in a context of no intermediation between patients and health providers.

IP

The product has not been patented, but the innovative coating technic related to the product is patented by Dr Marcella Chiari, a member of the scientific team.

Contact Details

Scientific team

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