



January 28<sup>th</sup> 2013

**Dear Allergome User,**

At the beginning of 2000 the idea to release a repository of all known allergenic molecules came up. On February 1<sup>st</sup> 2003 the Allergome web site was for the first time reachable on Internet. The aim was to give basic information on allergenic molecules, mostly addressing the need of those professionals who were not very familiar with allergenic molecules and in order to let them gain access to as much knowledge as possible.

Very soon it became clear that a comprehensive repository on allergen knowledge was needed to dynamically document the status of the art on the topic. The Allergome started to expand from the original idea and to collect much more data and information, taking advantage of the increasing availability of resources from the web and of the growing use of Internet worldwide. Not only allergenic molecules are nowadays hosted in the Allergome but also allergenic sources, organisms and molecules binding IgE but not causing allergies and, though still the less represented, the organisms and structures which do not bind IgE at all.

The basis for feeding the Allergome is the International scientific literature, including many journals in local language that are not available in public bibliographic repositories. All the 53 allergy-related journals published worldwide are constantly surveyed for early e-publications, leading to data extraction from papers most of the time available just from journal web sites. To date almost 89,000 papers have been retrieved from web-based resources, including reference databases and journal web sites. 28,180 have been selected as suitable to feed the Allergome, and 27,371 have been fully processed. As entering data on allergenic sources was not foreseen at the beginning, data have been extracted on a regular basis from all papers (18,562) published since January 2005, whereas those published earlier have been fully processed only when dealing with allergenic molecules. From collecting the literature to data entry, feeding the Allergome is now an increasing but still affordable effort. As an example of Allergome team increasing effort, 440



papers were published during year 2000 whereas data from 1,645 papers have been extracted just for allergenic molecules during 2012.

The Allergome hosts now information useful for all professionals in the field of allergens, including biochemists, molecular biologists, clinical allergists, epidemiologists, basic researchers including those involved in animal models. The Allergome is not only dealing with human diseases. Data on allergens relevant for veterinary allergists are marked within the same page dedicated to humans. In order to summarize for the Allergome user all the info shown on each allergen page, the allergenicity scoring system has been created. It shows results in each allergen page by a very simple graphical interface (11 coloured dots). The same data used to categorize the allergen and produce the allergenicity score are also used for a very advanced search engine. At any time the Allergome user is able to retrieve the allergenic molecule lists which have been characterized at the desired search level.

With the aim of improving the way to search the Allergome, the RefArray search engine has been developed. RefArray gives the Allergome user the chance to have a cross sectional view on Allergome data.

Along with the RefArray, other web Allergome resources like the ReTIME database, the AllergomeAligner, and the AllergomeConsumer, or the local software like InterAll, the Allergome cross-linked electronic record for allergic patients, have been released. All these tools transformed the original Allergome repository for allergenic molecules in a real web-based platform. It is a new way to be informed, to inform, and to generate knowledge. For that, several important studies have been run in cooperation with the Allergome, all documented in the literature and with links in the Allergome home page. Some studies are still running and some have just started. Starting January 2011 the Allergome is cross-referenced by the Uniprot Knowledgebase, the largest protein repository worldwide. The Uniprot is used to retrieve highly homologous proteins which, flagged in the Allergome as *in silico* generated, expand our understanding on allergens through data generated by scientists outside the allergy field.

As time passed by the Allergome has attracted increasing interest worldwide. During the last 12 months almost 15,000 unique visitors from 140 Countries visited the Allergome at least once. The



Allergome has been cited in 212 papers during the time and almost other 100 used it, though without citing the Allergome as the source. For that we kindly ask users to follow the Creative Commons License rules.

Financially wise, though starting as a self-funded non-for-profit project, the Allergome has received support from many Institutions, Companies and private professionals. All financial resources have been used for the releases described above, but maintaining the Allergome up-to-date requires a stable funding. We are very grateful for those entities which supported the Allergome in the most recent years as they are keeping the Allergome accessible for free to the International community.

As Allergome team members we are aware that much more should be done to complete the data entry from the past, to keep the Allergome up-to-date, and to make new tool releases, most of them based on all available modern ICT. To make this possible in the future, we trust the Allergome community to support us and progressively transform the Allergome into the resource of the professional and scientific community worldwide. Following the experience of other scientific data repositories, a consortium of Institutions, Associations, and Authorities is advisable as the future for the Allergome.

Nowadays we still believe in what made us doing the first step ten years ago. As far as we foresee a further knowledge expansion due to globalization, we are aware that the scientific community needs a long lasting and very reliable reference resource. The Allergome team will make all the possible efforts to fulfil the Allergome community expectations.

Sincerely yours

Adriano Mari and the Allergome Team

