

EUREKA PROJECT

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MAXIMIZING THE HITS, MINIMIZING THE FAILINGS OF FUTURE DRUGS

Discovering new drug treatments requires a vast investment of time and money in order to understand how a molecule interacts with the body. A Franco-British cooperation has come up with an effective solution.

Bringing a new treatment to market in the pharmaceuticals sector often takes 12 to 15 years and can cost well over US\$ 1 billion. A Franco-British partnership between Hybrigenics Services SAS and Charnwood Molecular Ltd has successfully launched a service that helps life sciences companies better understand the efficacy and safety of bioactive molecules, offering potential to maximize successes in developing new drugs.

The partnership in this new technology was a perfect symbiosis of expertise between Charnwood Molecular, in performing the chemistry required to have a molecule suitable for the system and Hybrigenics Services, in conducting the screening identification of the target bioactive molecule. It is the fruit of an investment of almost one million euro over two years including 40% support from the European Union subsidy under the Eurostars® programme. Dr. Marie-Edith Gourdel, Director Chemistry at Hybrigenics SAS, explained: «The benefit of a collaboration like this is that it brings together two complementary expertises in the development/optimization of this technology at a European level. The collaboration continues after the European

programme and the launch of the new service early 2013”

Technology Benefiting People and Our Environment

Any candidate molecule for a new drug first needs to be profiled. This will allow the discovery of its so-called ‘on-target effects’: the positive ways in which an active compound acts on a protein, and its ‘off-target effects’, the negative interactions with a protein, possibly leading to side-effects. While scientific cooperation was obviously an important pillar of the cooperation, the ultimate aim was to develop a new service. The resulting new technology, marketed by Hybrigenics Services under the name of ULTimate YChemH™ Screening Service, offers an efficient and effective way of identifying how a molecule (for instance, the active ingredient of a drug) interacts with a variety of other proteins.

The new service is of interest to life sciences companies as well as to chemical manufacturers. It can help those who discover and develop new candidate molecules for future drug products to detect the positive effects and any potentially undesirable side-effects. In addition, life sciences companies can gain greater insights into their existing drug portfolio to identify potential new applications in a timely manner.

The technology is compatible with modern screening methods, such as so-called

high-content phenotypic screening, whereby whole organisms such as zebra fish are screened to discover the overall composition of their traits and characteristics. YChemH is the suitable next step for performing target deconvolution.

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YChemH also offers other benefits, as this technology can reduce the numbers of animals needed for evaluation. This is particularly important against the background of the REACH regulation. This is an EU regulation introduced in 2006 to improve protection from the effects of chemicals on humans and the environment, requiring stricter control and understanding of chemicals produced or imported into the EU. Methods such as this help us understand interactions between chemicals and proteins without the need for animal models.

The service is expected to create up to nine new full-time positions in the companies within the first three years of release, and add over 600,000 euro in total turnover to the two companies.

PARTNERS

HYBRIGENICS Services SAS, France
Charnwood Molecular Ltd, United Kingdom

BUDGET

€ 1M

DURATION

24 months

COUNTRIES INVOLVED



EUREKA is a European network for market-oriented R&D.



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