

# HU–MOLMEDEX: Creating the Hungarian Centre of Excellence for Molecular Medicine

Az alap kutatási eredmények klinikai alkalmazásának elősegítése és egy magyar molekuláris medicina kiválósági központ létrehozása a célja annak a Nemzeti Kutatási, Technológiai és Innovációs Hivatal által koordinált konzorciumnak, mely első körben közel 500.000€ támogatást nyert el a Horizont 2020 program ún. Teaming akciója keretében. „A molekuláris medicina magyar kiválósági központjának létrehozása” („Creating The Hungarian Centre of Excellence for Molecular Medicine”, HU-MOLMEDEX) konzorcium további tagjai a Szegedi Tudományegyetem, a Debreceni Egyetem, a Semmelweis Egyetem és a Magyar Tudományos Akadémia Szegedi Biológiai Kutatóközpontja, valamint egy, a kutatási teljesítményben élenjáró németországi intézet, az European Molecular Biology Laboratory (EMBL).

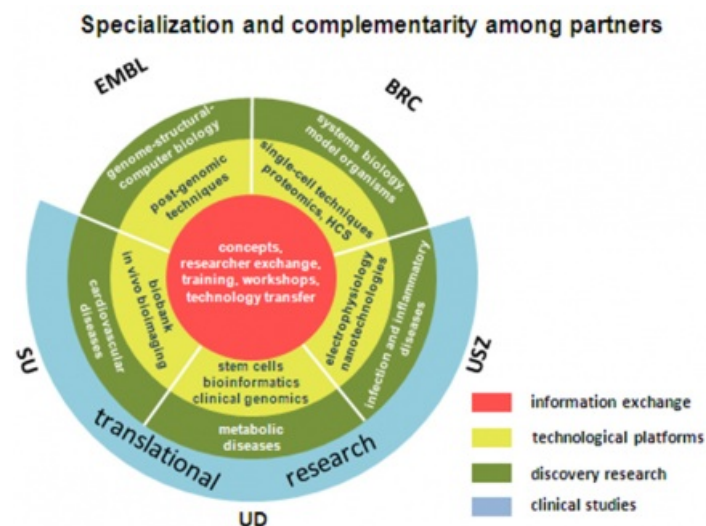
A Teaming felhívás elsődleges célja olyan projektek támogatása, amelyek különböző kutatóhelyek összefogása, együttműködése révén hoznak létre kiválósági központokat, hogy erősítsék kutatási potenciáljukat. Az EMBL – a kutatásban kiemelkedő intézetként – egy teljesen új, molekuláris medicinával foglalkozó kiválósági központ kiépítésében segíti a magyar partnereket.

A Horizont 2020 Teaming akciójának első felhívására összesen 169 pályázat érkezett be, köztük kilenc, magyar koordinátor által vezetett konzorcium projektjavaslata. A 169 nyertes közül 31 részesült támogatásban, melyből 3 magyar pályázat, ezek egyike a HU\_Molmedex projekt. A Teaming program szerkezetének megfelelően a megítélt támogatásból az első fázisban egy üzleti tervet kell elkészíteni a létrehozandó kutatóközpont, amelynek értékelését követően a 31-ből 9 pályázat fog a második fázisban a kutatóközpont kiépítésére támogatást kapni a H2020 program keretében.

Az alábbi leírás a HU\_Molmedex projektet mutatja be angol nyelven.

## Vision

MOLMEDEX will boost biomedical research in Hungary, building on past achievements and existing potential to create a well-managed and sustainably financed Centre of Excellence for Molecular Medicine (HCEMM). With an emphasis on translational molecular medicine, MOLMEDEX aims to have a lasting, positive impact on young investigators in the European Research Area. It combines the strengths of leading institutes in the molecular life sciences and three universities in Hungary, and is coordinated by the National Research, Development and Innovation Office, Hungary (NKFIH).



## Background

In the post-genomic era, biomedical research is in a transition state, generating large-scale molecular information on health and diseases at the personal and population level. This has led to an accelerating demand for novel approaches to answering the many open questions and unsolved problems in medicine. Molecular medicine is undergoing a revolution, with great potential to engage basic researchers, clinical partners, funders, and Hungarian society at large to catalyse growth and progress.

Molecular life sciences and clinical research in Hungary have a long tradition, strong potential and highly respected international performance. However, in recent years it has struggled to keep up with the fast-changing technologies and cooperation-driven demands of the post-genomic era. Molecular medicine as a discipline remains underrepresented in the research portfolio of Hungarian academia.

Having identified the barriers and disparities that hinder European-level competitiveness in translational molecular medicine, MOLMEDEX partners will now leverage their excellence in basic and clinical research to initiate a joint translational research programme. The European Molecular Biology Laboratory (EMBL), Europe's flagship laboratory for the life

sciences, is lending its experience in delivering excellent research and services as well as its long tradition in interdisciplinary, international collaboration to help achieve the project's goals.

## **Partners**

### *National Research, Development and Innovation Office*

The National Research, Development and Innovation Office (NKFIH) plays a central role in coordinating all Framework programme-related activities at governmental level in Hungary. Since the beginning of 2015, the NKFIH has acted with significantly expanded responsibilities: in addition to the tasks related to STI policy and strategy development, innovation support services and coordinating role in international R&D cooperation programmes, the NKFIH is also responsible for managing the majority of the R&D and innovation-related public funding in Hungary, including national and ESIF funding. In this context, NKFIH had actively participated in 37 NCP, ERA-NET, and CSA projects, with an overall budget in excess of 1 million EUR since 2005. In addition, NKFIH successfully coordinated a FP7 Marie Curie Actions COFUND project with a budget of around 4.5 million EUR.

### *Biological Research Centre of the Hungarian Academy of Sciences*

The Biological Research Centre of the Hungarian Academy of Sciences (BRC) is an EU Centre of Excellence, employing a total of about 260 scientists. BRC is mainly a basic science research centre, although its scientists are active in founding and promoting biotechnological companies. BRC is characterised primarily by interdisciplinary, basic and applied research in practically all areas of molecular and cellular biology, ranging from the industrial utilisation of bacteria through controlled improvement of cultivated plants to the problems of human health and environmental protection. Beyond the diverse capacities of the individual laboratories, well-equipped central laboratories serve high-throughput infrastructural needs in the fields of bioinformatics, cellular imaging, microarray technologies, next-generation DNA-sequencing, proteomics and lipidomics. Based on a bilateral agreement, BRC is also active in under- and postgraduate education at the University of Szeged. BRC is recognised as one of the primary research hubs in Eastern Europe, drawing and educating young scientists from the broader region.

### *University of Debrecen*

The University of Debrecen is represented in the project via the Research Center for Molecular Medicine (RCMM), which was established in 2001 as a unique academic initiative aimed at promoting excellence in the field of molecular medicine. RCMM brings together the most successful basic research teams and clinical scientists of the Faculty of Medicine, as well as core facilities (genomics, proteomics, cellular imaging, biomolecular interactions, high-throughput screening, Laboratory Animal Facility) in order to boost collaboration and optimise the sharing of major equipment. Soon after its creation, RCMM successfully applied for an FP6 application and gained the title of 'EU regional Centre of Excellence'.

### *University of Szeged*

The University of Szeged (USZ) is renowned for its rich traditions and high prestige among Hungary's institutions of higher education. The University's mission is to offer high quality education at the levels of Bachelor's, Master's, doctoral (PhD) and postgraduate training. The University's internationally acknowledged, competitive research activity is an essential part of its educational mission, and is particularly important in maintaining the institution's position as a research university. The research and creative activities of USZ include basic and applied research, creative arts, product and service development. As a result of its research capacity, doctoral training, scholarly activity and annual R&D income, USZ received Research University status in 2010 – together with four other Hungarian universities, it is now among those institutions of tertiary education that are nationally recognised as the universities of the highest quality. USZ has more than 200 patents, one utility model, over 1000 R&D contracts with business partners, and eight spin-off businesses. The Faculty of Medicine is the main partner of the MOLMEDEX consortium.

### *Semmelweis University*

The Semmelweis University (SU) is one of Europe's outstanding centres for research and innovation in biomedical sciences and related fields. The main SU research priorities cover the fields of cardiovascular and central nervous system disorders, oncology, autoimmunity and inflammation, with a special emphasis on personalised and regenerative medicine. SU is engaged in several international networks of biomedicine and continuously developing research infrastructure in core facilities, such as imaging and biobanking. The state-of-the-art SU Medical Theoretical Center provides excellent research infrastructures, with continuously developed cutting-edge technologies.

### *European Molecular Biology Laboratory*

The European Molecular Biology Laboratory (EMBL) is Europe's flagship laboratory for the life sciences, with more than 80 independent groups covering the spectrum of molecular biology. EMBL is international, innovative and interdisciplinary – its 1600 employees, from many nations, operate across five sites: the main laboratory in Heidelberg, and outstations in Grenoble; Hamburg; Hinxton, near Cambridge (the European Bioinformatics Institute); and Monterotondo, near Rome. Founded in 1974, EMBL is an inter-governmental organisation funded by public research monies from its member states. EMBL ranks amongst top institutes worldwide in research performance. The cornerstones of EMBL's mission are: to perform basic research in molecular biology; to train scientists at all levels; to offer scientific services to the member states; to actively engage in technology transfer; to foster integration of life science research in Europe and beyond. Around 230 students are enrolled in EMBL's International PhD programme. Additionally, the Laboratory offers a platform for dialogue with the general public through various science communication activities such as lecture series, visitor programmes and the dissemination of scientific achievements.

## **Funding**

The MOLMEDEX project is a Coordination and Support Action project funded by the European commission under the HORIZON 2020 Framework Programme, aiming to create the HCEMM under the involvement the University of Debrecen, Semmelweis University, University of Szeged, Biological Research Centre of the Hungarian Academy of Sciences, and supported by EMBL. The consortium is led by the National Research and Innovation Office of Hungary.

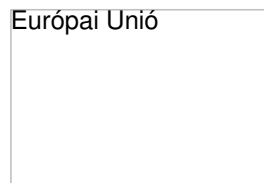
### Project summary

<b>Acronym</b>	MOLMEDEX
<b>Title</b>	Creating the Hungarian Centre of Excellence for Molecular Medicine
<b>Call</b>	WIDESPREAD-2014-1 TEAMING
<b>Type of action</b>	Coordination and support action
<b>Grant agreement number</b>	664410
<b>Duration</b>	12 months
<b>Start date</b>	01/06/2015
<b>Estimated project cost</b>	€ 496,860
<b>Coordinator</b>	National Research, Development and Innovation Office

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### Dissemination materials, news



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