

European Lead Factory (EU Lead Factory)

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Research Areas



Tool Development

Resource



Biomarker Research

At a Glance

- Status: **Active Consortium**
- Year Launched: **2013**
- Initiating Organization: **Innovative Medicines Initiative**
- Initiator Type: **Government**

Abstract

The European Lead Factory (EU Lead Factory) is a pan-European platform for drug discovery supported by the Innovative Medicines Initiative (IMI) that is set to give a major boost to drug discovery in Europe. Comprising a collection of half a million compounds (derived from new public and existing private company collections) and a screening centre, the European Lead Factory will offer researchers in academia, small and medium-sized enterprises (SMEs) and patient organizations an unprecedented opportunity to advance medical research and develop new medicines. ELF intended duration is 60 months until December 31st, 2017.

The objective: a collaborative approach to find small molecule candidates.

The ELF was established in 2013 to find valuable lead candidates that were previously inaccessible – compounds that can result in the development of novel treatment options for patients. To achieve this goal, the ELF provides a high-quality compound library and the opportunity to screen those compounds against potential drug targets to the broader community.

High-quality compounds

In an unprecedented joint-force approach, seven members of the European Federation of Pharmaceutical Industries and Associations (EFPIA) decided to give the European research community and each other access to their heavily safe-guarded compound libraries. By contributing

over 300,000 compounds to the Joint European Compound Library (JECL), they aim to boost drug discovery within Europe. One of the objectives of the ELF is to complement these by another 200,000 innovative compounds, synthesized specifically for the JECL by the Public Chemistry Consortium. To achieve this, library design proposals are being sourced from academic groups and Small- and Medium-sized Enterprises (SMEs) throughout a European crowd sourcing approach. Together, the EFPIA and Public compound collection will form the unique 500,000-strong JECL. All efforts of the Chemistry Consortium in delivering up to 200,000 novel compounds to subsequent screening activities are managed by Taros Chemicals.

Screening opportunities

The ultimate deliverable of ELF is to provide the highest quality lead candidates to stimulate drug discovery programmes. To find valuable lead structures, the compounds in the JECL are screened against drug targets by means of ultra-high throughput (uHTS) screening at eight screening centres: at each of the seven participating EFPIA partners, and at the European Screening Centre (ESC). The ELF allows the seven EFPIA companies to access the full JECL for a limited number of their screening programmes. In addition, the ESC provides European researchers in- and outside the consortium the unique opportunity to screen their potential drug target against the JECL. Interested researchers can apply for a screening slot in a rolling review and selection process.

Partnerships

The European Lead Factory is based on a partnership of 30 organizations throughout Europe and welcomes the opportunity to collaborate with you to advance drug discovery even further. Within the project, crowd sourcing provides not only a constant flow of innovation but also new opportunities for collaborations between academic groups, SMEs and EFPIA members on both scientific and commercial grounds.

Learn more about the European Lead Factory on YouTube: https://youtu.be/YLnSi_3o2U8

Consortium History

2013: ELF start date

2013: ELF opens for proposals

2014: ELF releases first results confirming drug discovery potential

2014 August: ELF now supports target assays with Ca²⁺ readout as well

2014 November: First SME receives Qualified Hit List

2015 January: Almost 40.000 novel compounds synthesized and delivered into the JECL for uHTS, 1st publication on the character of the Joint European Compound Library (JECL)

2015 April: ELF wins BIO-IT World Best Practices Award for its Honest Data Broker implementation of ScienceCloud

2015 April: Over 50,000 compounds successfully synthesized and added to the JECL

2015 August: Over 50 public target programmes have now been accepted for screening at the European Lead Factory

2015 September: ELF launches revised website, more than 20 publications relating to ELF

Structure & Governance

EU Lead Factory is governed by the Project Management Board and the Project General Assembly. The Program Office at TI Pharma (see www.tipharma.com) is responsible for scientific management. All project management services are provided by GABO:mi (see www.gabo-mi.com). The Project Executive team consisting of the three members Bayer Pharma (see: www.bayer.com), ELF coordinator), Taros Chemicals (see: www.tarosdiscovery.com, Chemistry) and TI Pharma (Biology) acts as the decision making body.

Financing

EU Lead Factory is funded under the European Innovative Medicines Initiative (IMI). The total project budget is around €196.5 million, with €80.0 million from the European Commission and €91.3 million of in kind contributions from EFPIA members. A further €25.2 million comes from non-EFPIA participants.

Intellectual Property

The IMI intellectual property (IP) policy governs the IP regime of all projects funded by the IMI Joint Undertaking. To assist with specific IP queries, IMI has set up a dedicated IP Helpdesk, which can be contacted by emailing IMI-IP-Helpdesk@imi.europa.eu. The IMI IP policy can be accessed at http://www.imi.europa.eu/sites/default/files/uploads/documents/imi-ipr-policy01august2007_en.pdf

Patent Engagement

All stakeholders, including patient organizations and global health initiatives, are actively invited to support and promote EU Lead Factory and to help explore the new drug lead molecules that emerge from EU Lead Factory programs.

Data Sharing

All experimental work is supported by IMI funding, and target program owners receive a Qualified Hit List (QHL) of up to 50 compounds, complete with relevant information to help in the development of an Improved Hit List (IHL).

Target program owners have exclusive access (within EU Lead Factory) to threshold active compounds in their QHL and do not have to disseminate screening results at this time. They are free to decide whether results will be exploited directly or used for further research. After the three-year exclusivity period, QHL/IHL information will be made public.

Milestone payments are due if direct exploitation proceeds, not for research use. Owners and contributors will give EFPIA members the right to submit a first bid (which they do not have to accept).

Impact/Accomplishment

Updated news can be found at <https://www.europeanleadfactory.eu/results/news/>

Links/Social Media Feed

| | |
|---------------|---|
| Homepage | https://www.europeanleadfactory.eu/# |
| Other website | http://www.imi.europa.eu/content/european-lead-factory |
| Twitter | @EULeadFactory |

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