LIPIDOMICNET
Project ID: 202272
Funded under: FP7-HEALTH

Lipid droplets as dynamic organelles of fat deposition and release: Translational research towards human disease

From 2008-05-01 to 2012-10-31, closed project

Project details

<table>
<thead>
<tr>
<th>Total cost:</th>
<th>Topic(s):</th>
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<tbody>
<tr>
<td>EUR 16 022 988,28</td>
<td>HEALTH-2007-2.1.1-6 - High throughput analysis of lipids and lipid-protein interactions</td>
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<tr>
<th>EU contribution:</th>
<th>Call for proposal:</th>
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<tr>
<td>EUR 11 603 930</td>
<td>FP7-HEALTH-2007-A</td>
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<th>Coordinated in:</th>
<th>Funding scheme:</th>
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<td>Germany</td>
<td>CP-IP - Large-scale integrating project</td>
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Objective

Lipids are central to the regulation and control of cellular processes by acting as basic building units for biomembranes, the platforms for the vast majority of cellular functions. Recent developments in lipid mass spectrometry have set the scene for a completely new way to understand the composition of membranes, cells and tissues in space and time by allowing the precise identification and quantification of alterations of the total lipid profile after specific perturbations. In combination with advanced proteome and transcriptome analysis tools and novel imaging techniques using RNA interference, it is now possible to unravel the complex network between lipids, genes and proteins in an integrated lipidomics approach. This project application of the European Lipidomics Initiative (ELife; www.lipidomics.net) will address lipid droplets (LD) as dynamic organelles with regard to composition, metabolism and regulation. LD are the hallmark of energy overload diseases with a major health care impact in Europe. The project will exploit recent advances in lipidomics to establish high-throughput methods to define drugable targets and novel biomarkers related to LD lipid and protein species, their interaction and regulation during assembly, disassembly and storage. Translational research from mouse to man applied to LD pathology is a cornerstone of this project at the interface between research and development. To maximize the value of the assembled data generated throughout the project, “LipidomicNet” as a detailed special purpose Wiki formate data base will be developed and integrated into the existing Lipidomics Expertise Platform (LEP) established through the SSA ELife project (www.lipidomics-expertise.de). ELife collaborates with the NIH initiative LIPID MAPS (www.lipidmaps.org) and the Japanese pendant Lipidbank (www.lipidbank.jp) and is connected to the Danubian Biobank consortium (SSA DanuBiobank, www.danubianbiobank.de) for clinical lipidomics.

Related information

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<th>Result In Brief</th>
<th>Metabolic diseases and lipid storage</th>
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<td>Report Summaries</td>
<td>Final Report Summary - LIPIDOMICNET (Lipid droplets as dynamic organelles of fat deposition and release: translational research towards human disease)</td>
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Subjects

Medical biotechnology