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**About**

Lipidomics aims to identify and quantitate, using a systems biology approach all of the major — and many minor — lipid species in mammalian cells, as well as to determine their changes in response to perturbation (lipidomics). The ultimate goal is to understand lipid metabolism in all biological systems. This incorporates not only mammalian, but increasingly we focus on plant, microbial and other lipids.

LIPID Metabolites And Pathways Strategy (LIPID MAPS®) is a multi-institutional supported website and database that provides access to a large number of globally used lipidomics resources. These include:

- The LIPID MAPS structure database (LMSD) with over 46,000 unique structures makes it the largest publicly available, curated lipid database in the world.
- The LIPID MAPS Proteome Database (LMPD) of lipid-related genes and proteins contains data for over 8,500 genes and over 12,500 proteins from 10 major research species.
- Lipid structure-drawing tools for over 50 lipid classes available through online interfaces and REST services.
- Integrated mass spectrometry search tools covering LMSD and computationally generated lipid databases available through online interfaces and REST services.
- LIPID MAPS® publications, including peer reviewed journal articles and book chapters.
- Detailed biochemical pathways elucidated.
- Improved protocols for lipid separation and quantification.
- Analytical tools for determining lipid quantitation.
- Structure drawing tools for automatically drawing lipid molecular structures in stereochemical detail.
- Some 500 mass spectrometric standards.
- Experimental data.
- Tutorials on lipidomics and lipid metabolism using LIPID MAPS structural drawing protocols.
- Recently incorporated blog and resource written by Bill Christie.

Our lipid classification system is the first internationally accepted lipid classification, nomenclature, and structural representation system suitable for the complex bioinformatics databasing required to analyze the numerous molecular species of lipids (initially reported in 2005 and updated in 2009 in *The Journal of Lipid Research*).

Since our inception, we have worked to make lipid analysis easier and more accessible, and to advance a robust research infrastructure for the international research community. We share new lipidomics findings and methods, support annual meetings open to all interested investigators, and are exploring joint efforts to extend the use of these powerful new methods to new applications.
LIPID MAPS is funded by a multi-institutional grant from the Wellcome Trust, held jointly by Cardiff University, University of California, San Diego and the Babraham Institute, Cambridge (2016-2021). Our international team is led by Valerie O’Donnell, Ed Dennis, Shankar Subramaniam and Michael Wakelam.

**Direction and Vision**

During 2018, LIPID MAPS underwent a major redesign and rebranding of the website and resource led by the Wellcome Trust funded group. **The vision is to position LIPID MAPS as the global one-stop-shop for all things lipidomics for academic and commercial users.**

This was achieved by consolidating lipid resources globally, simplifying access to tools and data for lipid researchers worldwide. This includes providing information about lipid standards, analytical approaches/instruments, high profile lipidomic scientific discoveries, conferences/workshops, engagement opportunities, interactive discussion group, and new experimental protocols of interest to the community. The new interface has been updated and restructured for ease of use, improving access and information.

A core aspect of our rebranding has included new opportunities for commercial partners to highlight their companies and products on the new site. We are keen to hear from you if you would like your company and products featured and encourage you to get in touch. A list of potential opportunities are provided below under **Opportunities for Partnership.** The reach and access of LIPID MAPS in terms of users is highlighted below.

**User base and highlights of LIPID MAPS**

The LIPID MAPS Lipidomics Gateway houses the largest publicly available curated lipid database in the world and through its interactions with lipid researchers over the years has focused on providing tools, tutorials and protocols which were deemed most relevant to supporting research and data dissemination in this field.

The scope of the website covers lipid and gene databases, structure drawing tools, MS prediction/analysis tools, experimental protocols, experimental data, pathway maps, standards, tutorials, reference library and downloadable software. A key resource is the LIPID MAPS structure database (LMSD) with over 46,000 unique structures, searchable by text-based, structure-based and ontology-based methods as well as REST-based programmatic approaches.

A user survey (2015) with 292 complete responses showed that more than 43% visit the Gateway weekly. The most accessed component is the structure database/classification (39%) and structure drawing tools (22%), with 89% regularly using these. A majority (86%) use the website to gather data on specific lipids, such as structure or MS/MS data. They also rely heavily on the MS search tools, tools for calculating lipid mass values, training, and other resources including structure drawing tools, protocols, publication highlights, and information on upcoming conferences. Nearly a quarter have downloaded the LIPID MAPS database for conducting bioinformatics searches of lipidomics datasets.
The survey respondents cited the support of LIPID MAPS resources in the of over $100M in research grants (NIH, NSF, Wellcome Trust, EU, BHF, American Heart Association, etc.), and many high impact publications including in Nature Biotechnology, Nature Methods, Cell Metabolism and J Clin Invest, as well as large numbers in lipid/biochemistry journals such as J Lipid Res and J Biol Chem.

Other online structure databases including: PubChem (https://pubchem.ncbi.nlm.nih.gov/) contain large numbers of metabolites, but lack the classification and curation of LIPID MAPS. Thus, LIPID MAPS occupies a unique niche in terms of online lipid resources globally and is highly complementary but distinct to other available databases.

As the major curator of new lipids, LIPID MAPS feeds directly into the major global metabolomics databases, including Human Metabolome Database (HMDB), Metlin, LipidBlast and SwissLipid (SwissProt).

**User base**

The website is linked to Google analytics, which provides us with a tool to analyze our target audience. The current statistics outline that our visitors to the site are from both the private and Academic sector. The highest proportion of users are from Academia and come from almost all countries in the world.

Our Twitter account @lipidmaps has been re-established, and along with the incorporation of Bill Christie’s blog and resource has led to an increase in followers and engagement with our users.

**Opportunities for partnership**

LIPID MAPS operates on a not-for-profit basis, where all partnership funding raised is to support the website and resource for the global community over the long term.
Currently our Wellcome grant runs through to 2021, but our renewal application will require that we raise a significant proportion of our costs as matched funding through business opportunities. The grant currently supports our core staff costs in UCSD, Cardiff and Cambridge providing administrative functions, programming and curation, as well as strategic development of the resource.

Through identifying opportunities for partnership, we seek to support the long-term sustainability of LIPID MAPS, as a global open access community-driven resource.

Your brand/products will be highlighted to a global audience from both the private and Academic sector. Over 74,000 visitors accessed the website, with over 1.9 million pageviews, (January 2020-January 2021).

**Potential supporting opportunities include (negotiable):**

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Description</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td><strong>Opportunity 1</strong></td>
<td>Direct links to lipids that are commercially available through partner companies. Linking partners catalogs of lipids individually to curated structure database entries. Including direct working with companies to ensure links are kept updated as needed.</td>
<td>Up to 50 51-100 101-150 151-200 201-250 250+</td>
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<tr>
<td><strong>Opportunity 2</strong></td>
<td>LIPID MAPS partner status, which includes front page hosting of logo with clickable link in footer.</td>
<td>$10,000 per annum</td>
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<td><strong>Opportunity 3</strong></td>
<td>Front page highlighting of services provided for fixed times.</td>
<td>$1,500 per month</td>
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<tr>
<td><strong>Opportunity 4</strong></td>
<td>Front page highlighting of new information, which could include lipids, instruments and protocols for analysis in highlight boxes below main carousel, can include hosting of clickable video links.</td>
<td>$1,500 per month</td>
</tr>
<tr>
<td><strong>Opportunity 5</strong></td>
<td>Advertising for commercially sponsored workshops and conferences in events calendar</td>
<td>$1,500 per month</td>
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<tr>
<td><strong>Opportunity 6</strong></td>
<td>Download and use of the database via the REST service for commercial use.</td>
<td>For negotiation</td>
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Opportunity 7
Sponsor LIPID MAPS Live Webinar/s. This opportunity includes:

- Acknowledgment during the marketing of the live webinar. This includes your company/brand name being on our homepage within the ‘highlights section’. Plus you will be mentioned/tagged through a series of tweets.
- Logo on the slide at the start of the Webinar.
- You will be acknowledged verbally by our Host at the start and at the end of the Webinar.
- Access to the attendee registration list (please note due to GDPR regulations this is an ‘opt in’ list), and therefore numbers are not guaranteed.
- A recording of the Webinar is placed on the LIPID MAPS website.

Cost

$3,000 per webinar
Discounts available for multiple Webinar sponsorships.

Contact us

Thank you for your interest in LIPID MAPS.

Please contact us to discuss your tailor made package.

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