

# MetaboBank

## Public Repository for Metabolomics

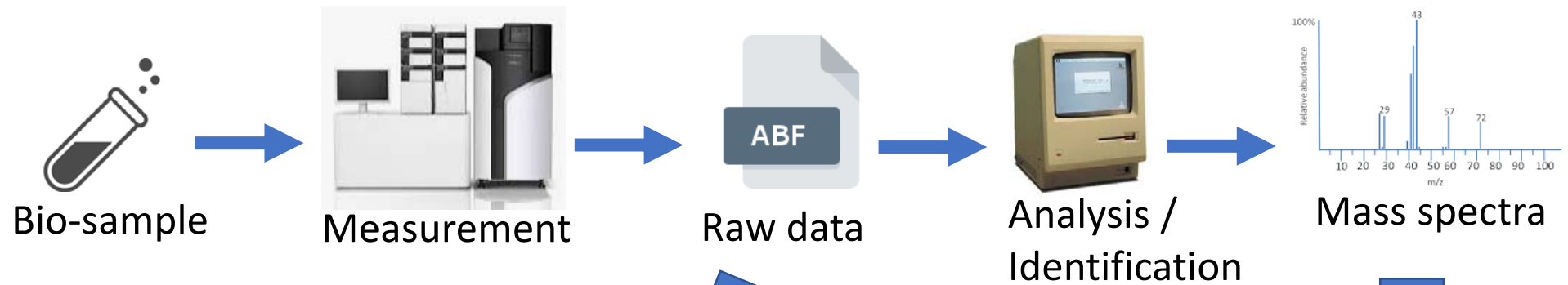
National Institute of Genetics (遺伝研)

ARITA Masanori ([arita@nig.ac.jp](mailto:arita@nig.ac.jp))

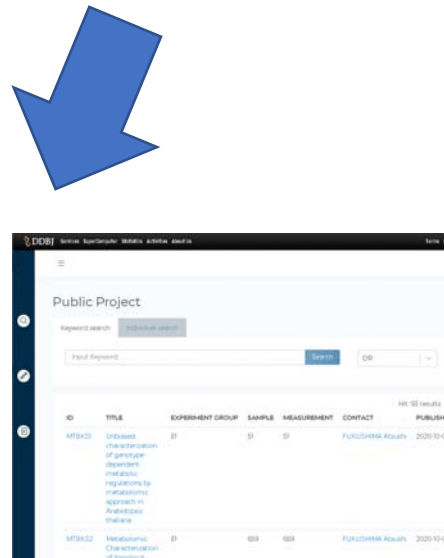


# MetaboBank is the primary repository for metabolomics

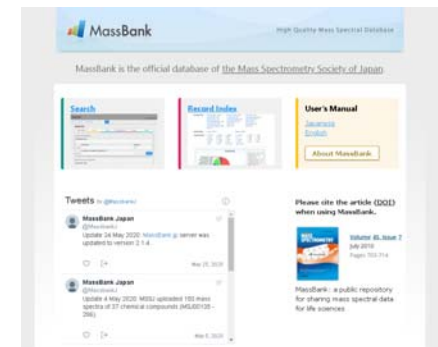
Omics research for small chemicals (compounds)



**RIKEN PMM (2019-) with Kazusa DNA Res Instit**



**MetaboBank (2020-)**



**MassBank (2006-2019)  
Now MSSJ**

# Metabolomics Workbench by NIH

NIH Common Fund

< 20% are published

Web-based analysis

Meta-data are minimum.

(harder to reuse)

Data repository for research integrity / verification



The screenshot shows the Metabolomics Workbench website. At the top left is a circular logo with the text "Metabolomics Workbench" and a colorful molecular structure. To the right, the title "METABOLOMICS WORKBENCH" is displayed in large, white, sans-serif font against a background of a snowy landscape with bare trees. Below the title is a navigation menu with links: Home, NIH Data Repository, Databases, Protocols, Standards, Tools, and Training / Events. A welcome message reads: "Welcome to the UCSD Metabolomics Workbench, a resource sponsored by the Common Fund of the National Institutes of Health." Below this is a section titled "NIH Metabolomics Data Repository" with three buttons: "Upload and Manage Studies", "Browse and Search Studies", and "Analyze Studies". At the bottom, there is a "Metabolomics News" section with a news item dated "02-11-2018" titled "Research Associate for Metabolomics Research" from the University of North Carolina at Chapel Hill.

# MetaboLights Repository by EBI

Since 2012

All species / methods

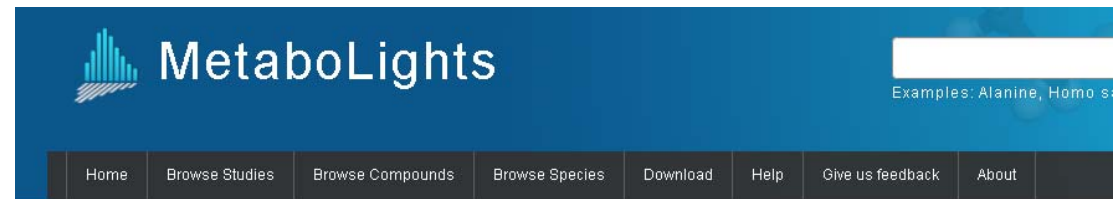
Started by Chris  
Steinbeck and Reza Salek

CC-BY

90% data are published.

Meta-data registration  
with ISA-TOOLS

Still, data reuse is difficult.

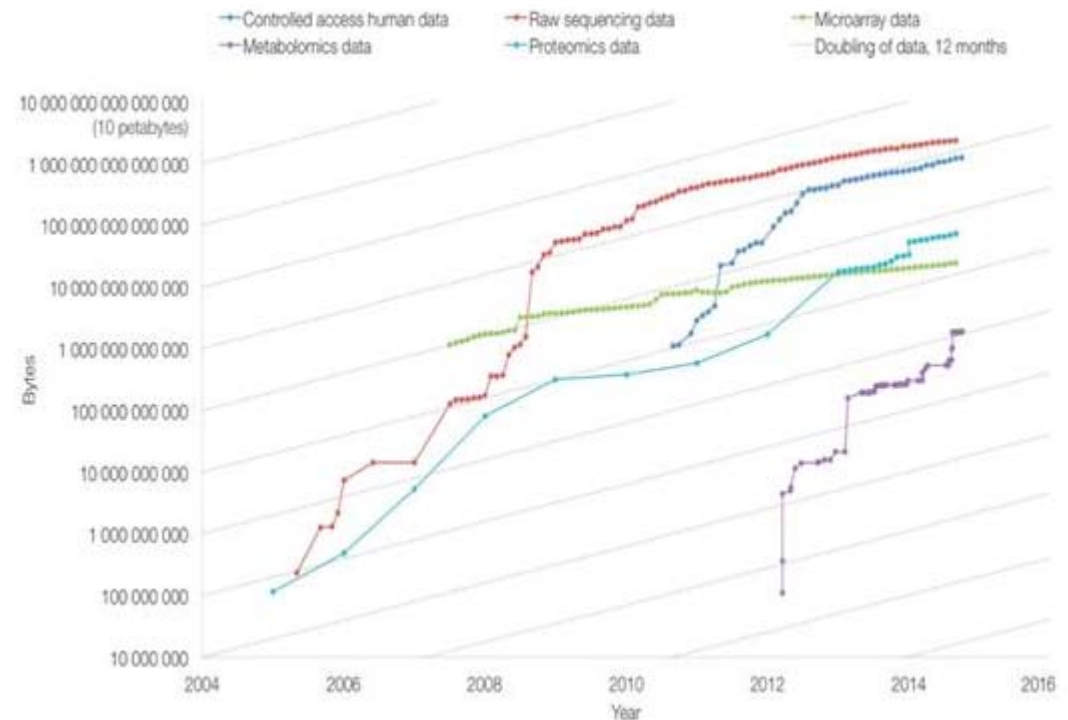


## MetaboLights

MetaboLights is a database for Metabolomics experiments and derived information. The database is cross-species, cross-technique and covers metabolite structures and their reference spectra as well as their biological roles, locations and concentrations, and experimental data from metabolic experiments. MetaboLights is the recommended Metabolomics repository for a number of leading journals.

[More about us](#)

[Quick tour](#) >



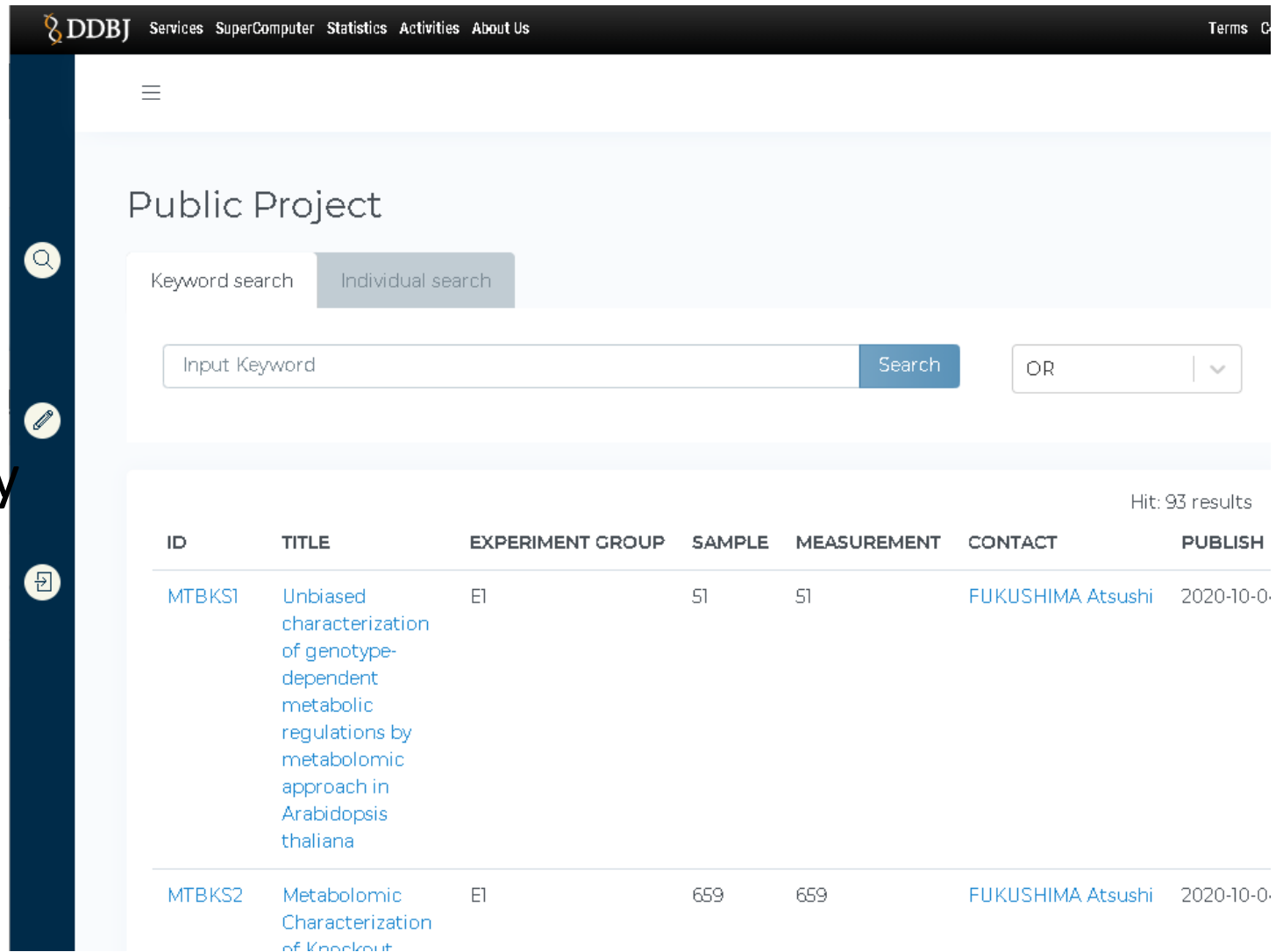
# MetaboBank by DDBJ

Opened on 5<sup>th</sup> October 2020 at [mb.ddbj.nig.ac.jp](http://mb.ddbj.nig.ac.jp)

Submission  
through Excel

Detailed  
metadata for  
reproducibility

Embargo ok



The screenshot shows the MetaboBank website interface. At the top, there is a navigation bar with the DDBJ logo and links for Services, SuperComputer, Statistics, Activities, and About Us. Below this is a 'Public Project' section with search options for 'Keyword search' and 'Individual search'. A search input field contains 'Input Keyword' and a 'Search' button. To the right of the input field is an 'OR' dropdown menu. Below the search area, a table displays search results. The table has columns for ID, TITLE, EXPERIMENT GROUP, SAMPLE, MEASUREMENT, CONTACT, and PUBLISH. The first row shows results for ID MTBKS1, with a detailed title: 'Unbiased characterization of genotype-dependent metabolic regulations by metabolomic approach in Arabidopsis thaliana'. The second row shows results for ID MTBKS2, with a title: 'Metabolomic Characterization of Knockout'.

ID	TITLE	EXPERIMENT GROUP	SAMPLE	MEASUREMENT	CONTACT	PUBLISH
MTBKS1	Unbiased characterization of genotype-dependent metabolic regulations by metabolomic approach in Arabidopsis thaliana	E1	51	51	FUKUSHIMA Atsushi	2020-10-0-
MTBKS2	Metabolomic Characterization of Knockout	E1	659	659	FUKUSHIMA Atsushi	2020-10-0-

# Advantages

RMM00001

編集する

概要 測定実験 サンプル 測定 解析手法 ファイル その他

概要 著者 参考文献

## 要約

**Title** Characterization of Lipid Profiles after Dietary Intake of Polyunsaturated Fatty Acids Using Integrated Untargeted and Targeted Lipidomics

**添付ファイル数** 9,999

**公開日** 2020年 5月 31日

EXPERIMENT	SAMPLE数	MEASUREMENT数	生データファイル数	解析データファイル数
Experiment 1	9,999	9,999	9,999	9,999
Experiment 2	9,999	9,999	9,999	9,999
Experiment 3	9,999	9,999	9,999	9,999
Experiment 4	9,999	9,999	9,999	9,999

## プロジェクト

**ID** [RMM00001](#)

**タイトル (英語)** Characterization of Lipid Profiles after Dietary Intake of Polyunsaturated Fatty Acids Using Integrated Untargeted and Targeted Lipidomics

**説明 (英語)** Illuminating the comprehensive lipid profiles after dietary supplementation of polyunsaturated fatty acids (PUFAs) is crucial to revealing the tissue distribution of PUFAs in living organisms, as well as to providing novel insights into lipid metabolism. Here, we performed lipidomic analyses on mouse plasma and nine tissues, including the liver, kidney, brain, white adipose, heart, lung, small intestine, skeletal muscle, and spleen, with the dietary intake conditions of arachidonic acid (ARA).

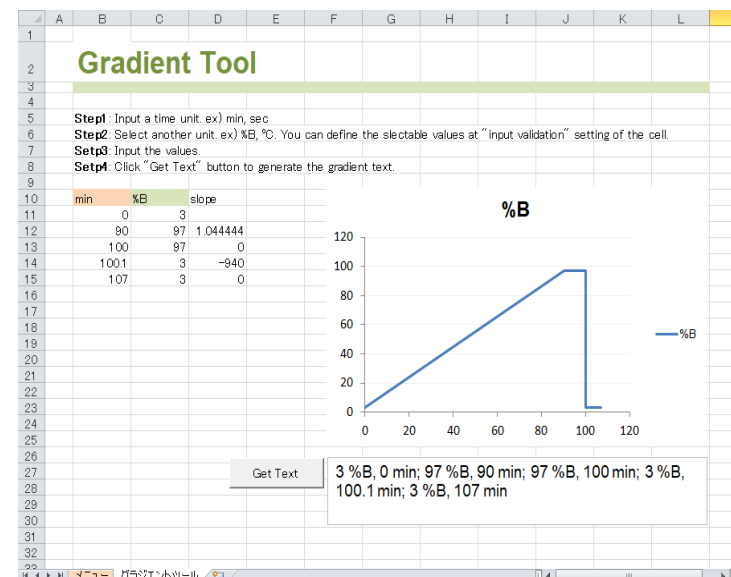
- Summary view and detailed metadata
- Information in Japanese

# MetaboBank Editor using Excel



- 100 Information sheets are organized in the Excel file.
- Users can reuse previously input information.

	A	B	C	D	E	F	G	H	I
1	<b>プロジェクト情報</b>					エディタで編集(F4)	メニュー		
2	プロジェクトの目的、登録者など、プロジェクト全体に関わる情報を記載します。								
3	表示選択 <input checked="" type="radio"/> 全部 <input type="radio"/> 必須+選択								
4	<b>ID</b>	<b>タイトル(英語)</b>	<b>タイトル(日)</b>	<b>説明(英語)</b>	<b>説明(日本)</b>	<b>作成者</b>	<b>連絡窓口</b>	<b>研究責任者</b>	<b>投稿者</b>
5	MBP1	My test project							
6									
7									



# Re-analysis you can do

plantMetabolomics

**Project**

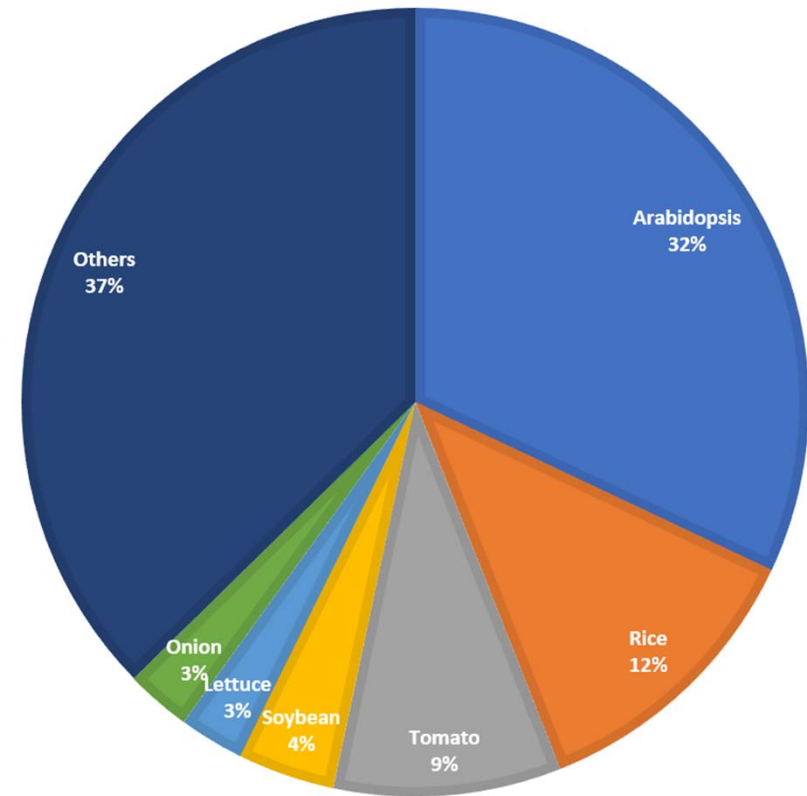
Instance

Search

41 - 50 of 53

Project	projct ID	title	description	con
<ul style="list-style-type: none"> <li>Metabolomic Evaluation of the Quality of Leaf Lettuce Grown in Practical Plant Factory to</li> </ul>	• RPMM0043	<ul style="list-style-type: none"> <li>Metabolomic Evaluation of the Quality of Leaf Lettuce Grown in Practical Plant Factory to</li> </ul>	<ul style="list-style-type: none"> <li>Vegetables produce metabolites that affect their taste and nutritional value and compounds that contribute to human health. The quality of vegetables grown in plant factories under hydroponic cultivation, e.g., their sweetness</li> </ul>	
<ul style="list-style-type: none"> <li>WIND1 induces dynamic metabolomic reprogramming during regeneration in &lt;i&gt;Brassica&lt;/i&gt;</li> </ul>	• RPMM0045	<ul style="list-style-type: none"> <li>WIND1 induces dynamic metabolomic reprogramming during regeneration in &lt;i&gt;Brassica&lt;/i&gt;</li> </ul>	<ul style="list-style-type: none"> <li>Plants often display a high competence for regeneration under stress conditions. Signals produced in response to various types of stress serve as critical triggers for &lt;i&gt;de novo&lt;/i&gt; organogenesis, but the identity of these signaling</li> </ul>	
<ul style="list-style-type: none"> <li>Effects of molybdenum deficiency and defects in molybdate transporter MOT1 on</li> </ul>	• RPMM0046	<ul style="list-style-type: none"> <li>Effects of molybdenum deficiency and defects in molybdate transporter MOT1 on</li> </ul>	<ul style="list-style-type: none"> <li>Molybdenum (Mo) is a micronutrient essential for plant growth, as several key enzymes of plant metabolic pathways contain Mo cofactor in their catalytic centres. Mo-containing oxidoreductases include nitrate</li> </ul>	
<ul style="list-style-type: none"> <li>Enhancement of oxidative and drought tolerance in Arabidopsis by overaccumulation of antioxidant</li> </ul>	• RPMM0047	<ul style="list-style-type: none"> <li>Enhancement of oxidative and drought tolerance in Arabidopsis by overaccumulation of antioxidant</li> </ul>	<ul style="list-style-type: none"> <li>The notion that plants use specialized metabolism to protect against environmental stresses needs to be experimentally proven by addressing the question of whether stress tolerance by specialized metabolism is directly</li> </ul>	
<ul style="list-style-type: none"> <li>Combination of</li> </ul>		<ul style="list-style-type: none"> <li>Combination of</li> </ul>	<ul style="list-style-type: none"> <li>Phytochemicals containing</li> </ul>	

■ Arabidopsis ■ Rice ■ Tomato ■ Soybean ■ Lettuce ■ Onion ■ Others





ご意見等，お待ちしております  
(3日以降にアクセスをお願いします)

[metabobank@ddbj.nig.ac.jp](mailto:metabobank@ddbj.nig.ac.jp)

今後，DDBJ講習会にも登場する予定です

YouTube: DDBJ Channel