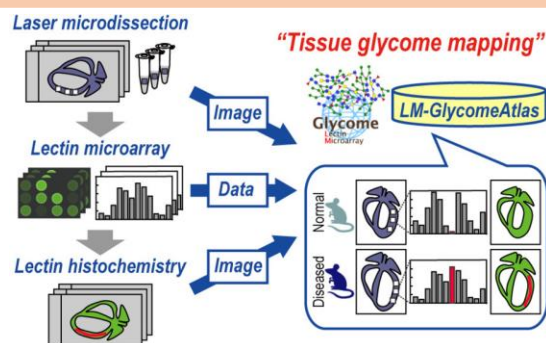


What is LM-GlycomeAtlas?

LM-GlycomeAtlas is a freely available online tool for effective visualization of “tissue glycome mapping” data [1,2] obtained by laser microdissection (LMD)-assisted lectin microarray (LMA) [3,4]. Users can access to multiple data sets of glycomic profiles with high-resolution histological images, which included staining images with multiple lectins on the array. Current ver. 2.1 includes 523 glycomic profiling data and 42 histological images obtained from 14 tissues of normal and diseased mice [5,6].

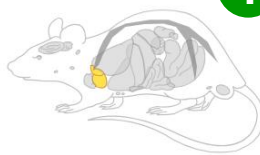


How to Use

[Top page](#)

[illegible]

Main interface



Tissue: Heart

Reference			1
No. of mice			3
No. of images			21
TissueID	TissueName	No. of Data (Total)	Downs (2016)
1	Brain	78	
2	Cornea	0	
3	Heart	69	15
4	Kidney	48	
5	Colon	24	
6	Liver	24	
7	Lung	18	
8	Lymph Node	0	
9	Ovaries	0	
10	Pancreas	30	
11	Skin	18	
12	Small Bowel	60	
13	Spleen	16	
14	Testis	24	
15	Thymus	12	
16	Serum	0	
17	Stomach	24	
18	Gallbladder	6	
	Total	523	15



1. Data file

LMA data and associated metadata can be downloaded and used for offline analysis.

	A	B	C
1	Sample Name	Lectin Name	Value (Mean Normalized)
2	Mouse1_4C30-1_Sample1	LTL	0.230133806
3	Mouse1_4C30-1_Sample1	PSA	0.958172375
4	Mouse1_4C30-1_Sample1	LCA	1.142323558
5	Mouse1_4C30-1_Sample1	UEA-I	0.321458587
6	Mouse1_4C30-1_Sample1	AOL	2.676781952

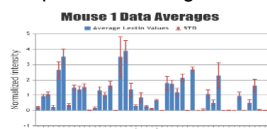
2. LMD images

Users can easily check the areas used for collection of tissue fragments for LMA analysis.



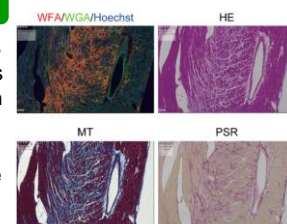
3. LMA data

LMA data of a selected region are shown individually for each sample or as averaged values.



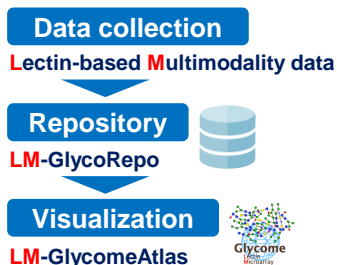
4. Histological images

Multiple high-resolution images of interest can be simultaneously displayed, allowing comparison of tissue sections stained with different staining methods and different groups of mice. These images can be seamlessly enlarged and reduced.



Ongoing work

- A novel repository named “LM-GlycoRepo” is under construction to allow deposition of lectin-based multimodality data obtained from various species including human.
- According to develop the repository, LM-GlycomeAtlas will also be updated to effectively visualize deposited data.



References

- [1] Nagai-Okatani *et al.* *Molecules* 24:2492, 2019.
- [2] Nagai-Okatani *et al.* *J Proteome Res* 20:2069, 2021.
- [3] Zou *et al.* *Sci Rep* 7:43560, 2017.
- [4] Nagai-Okatani *et al.* *Methods Mol Biol* 2460:161, 2022.
- [5] Nagai-Okatani *et al.* *Lab Invest* 99:1749, 2019.
- [6] Itakura *et al.* *Regen Ther* 22:68, 2023.