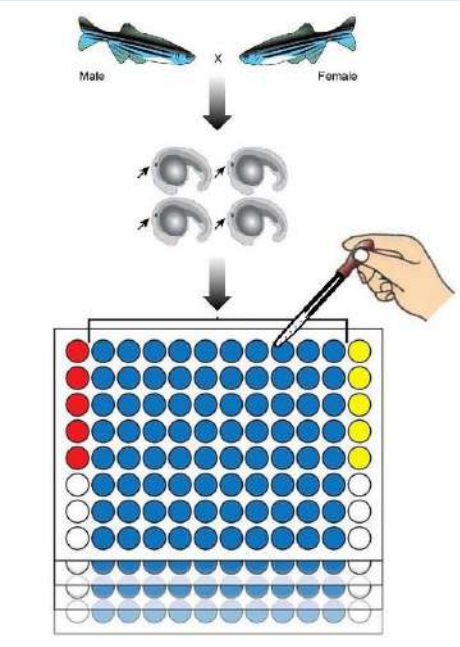
High throughput screening platform for functional food and drug components based on microfluidic and pumpless zebrafish chips

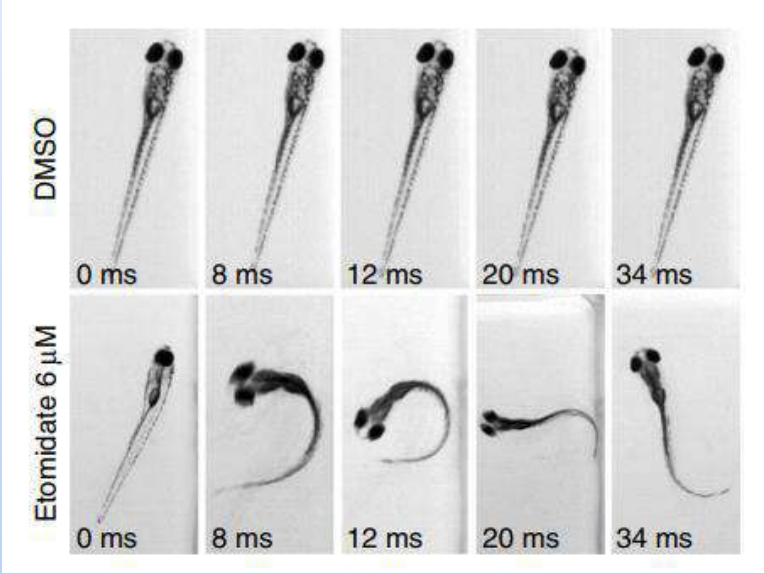
LONGSEE
南芯医疗

Zebra Fish For Screening

Disadvantages

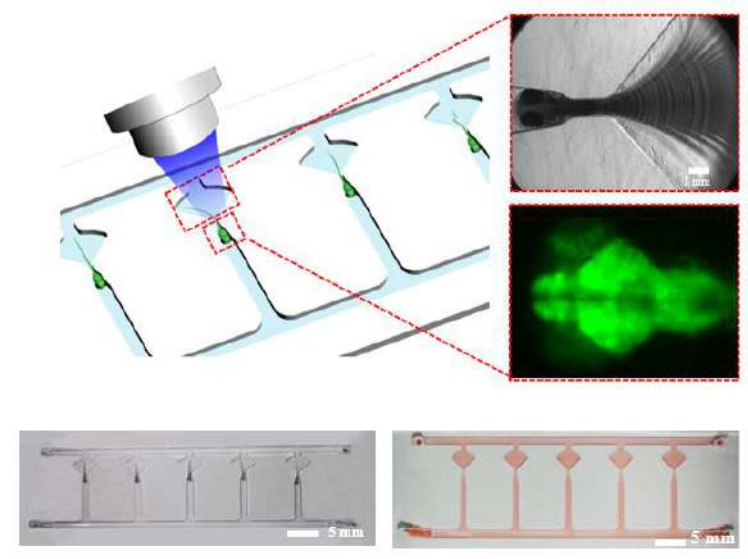


Problem to be solved
1. Transfer
2. Immobilization
3. Directional control
4. Time-consuming and labor-intensive

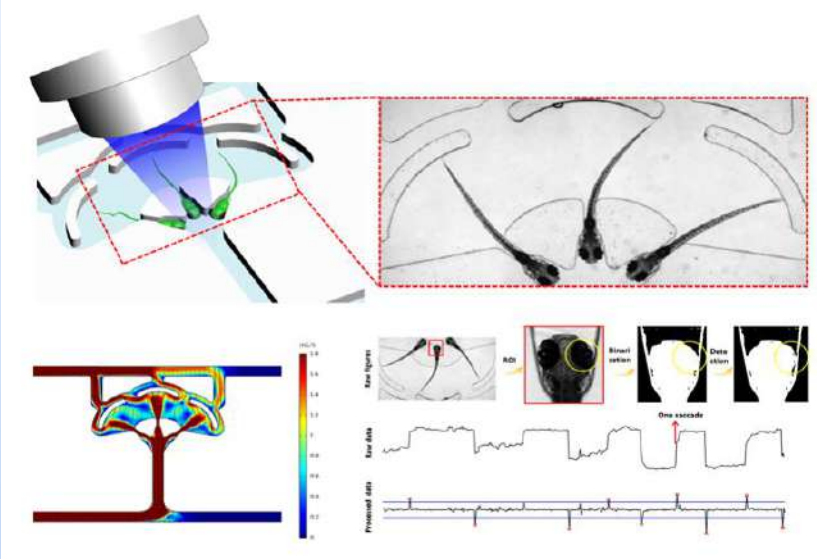


Problem to be solved
1. Single evaluation
2. Single performance
3. Blind screening

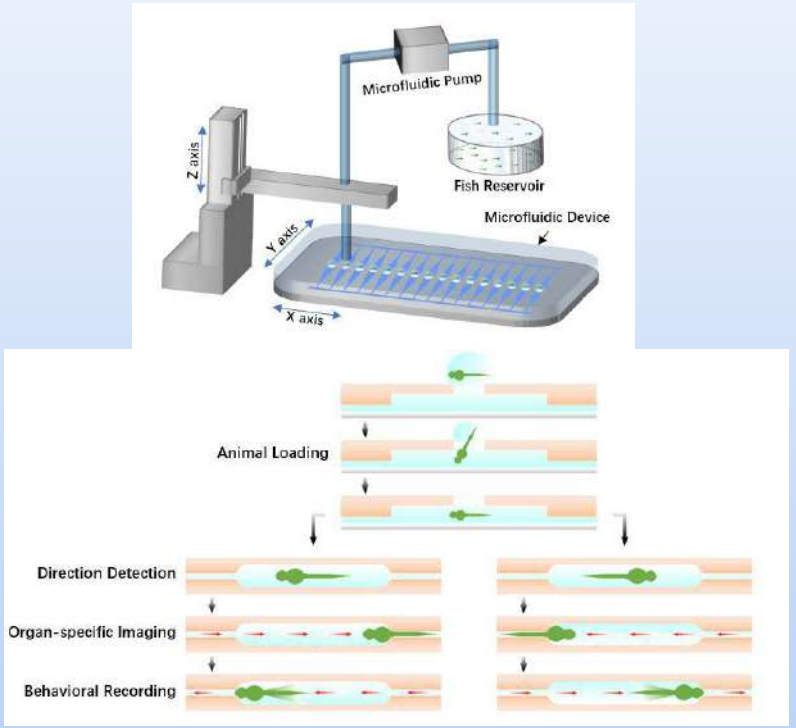
High-throughput Screening Platform - Microfluidic Chips



Microfluidic zebrafish chip

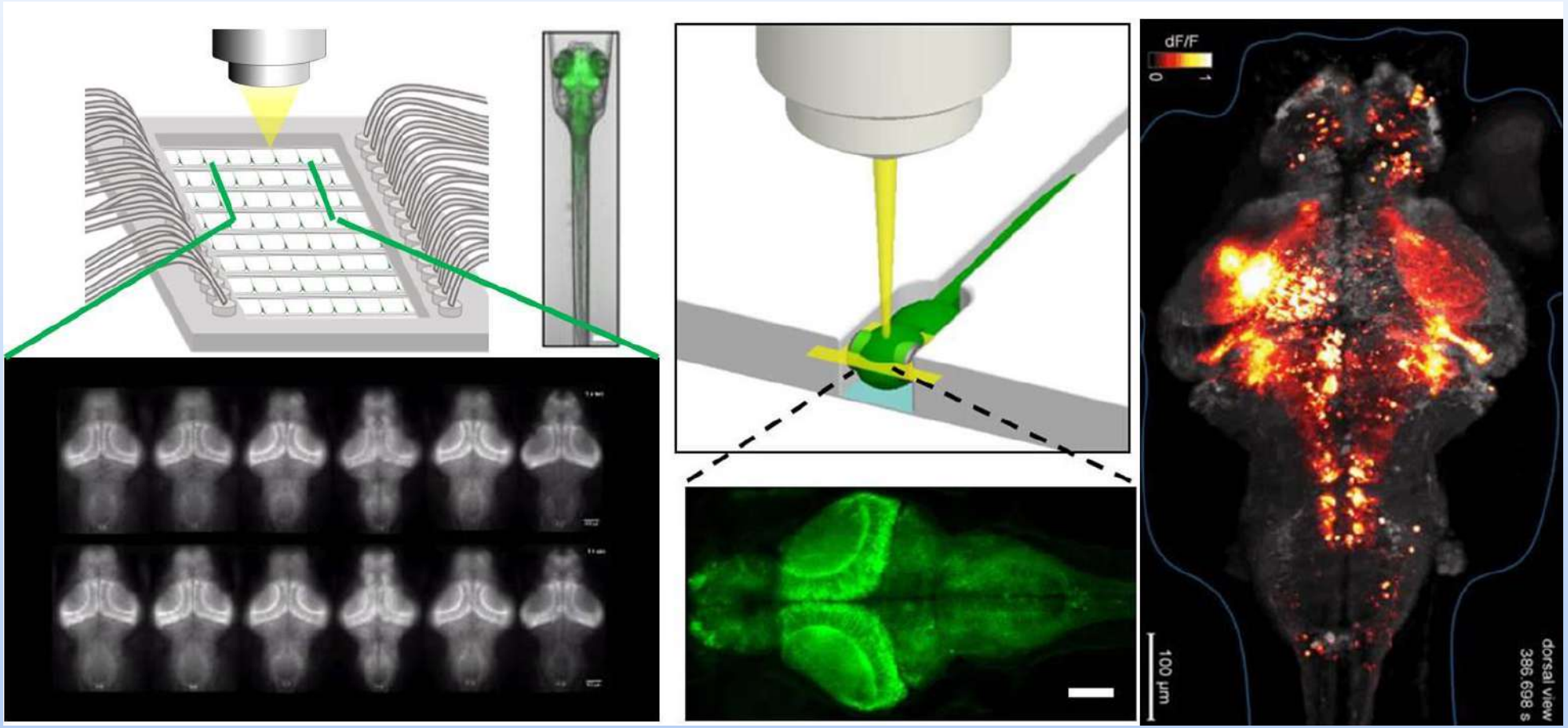


Ultra high throughput microfluidic zebrafish chip

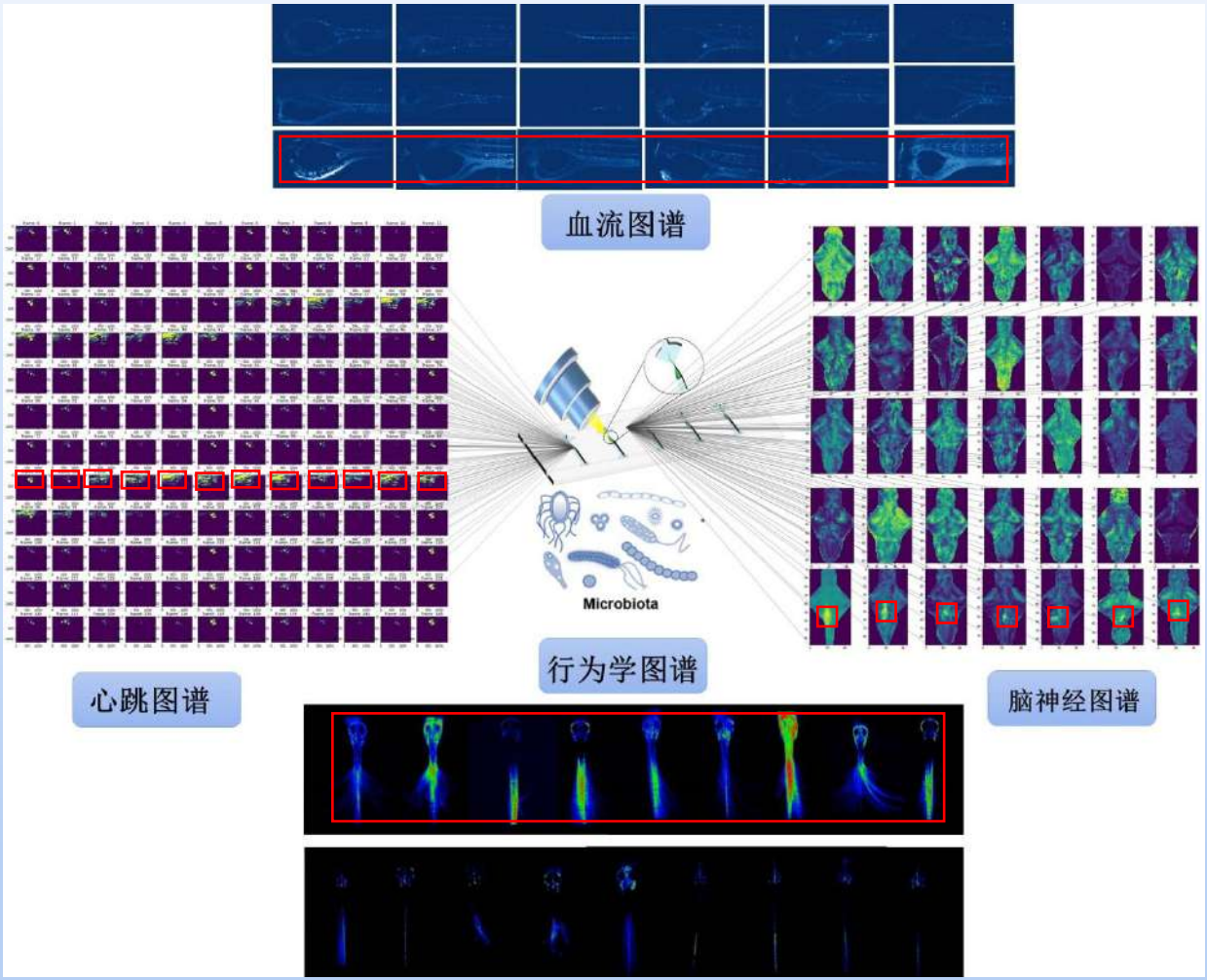


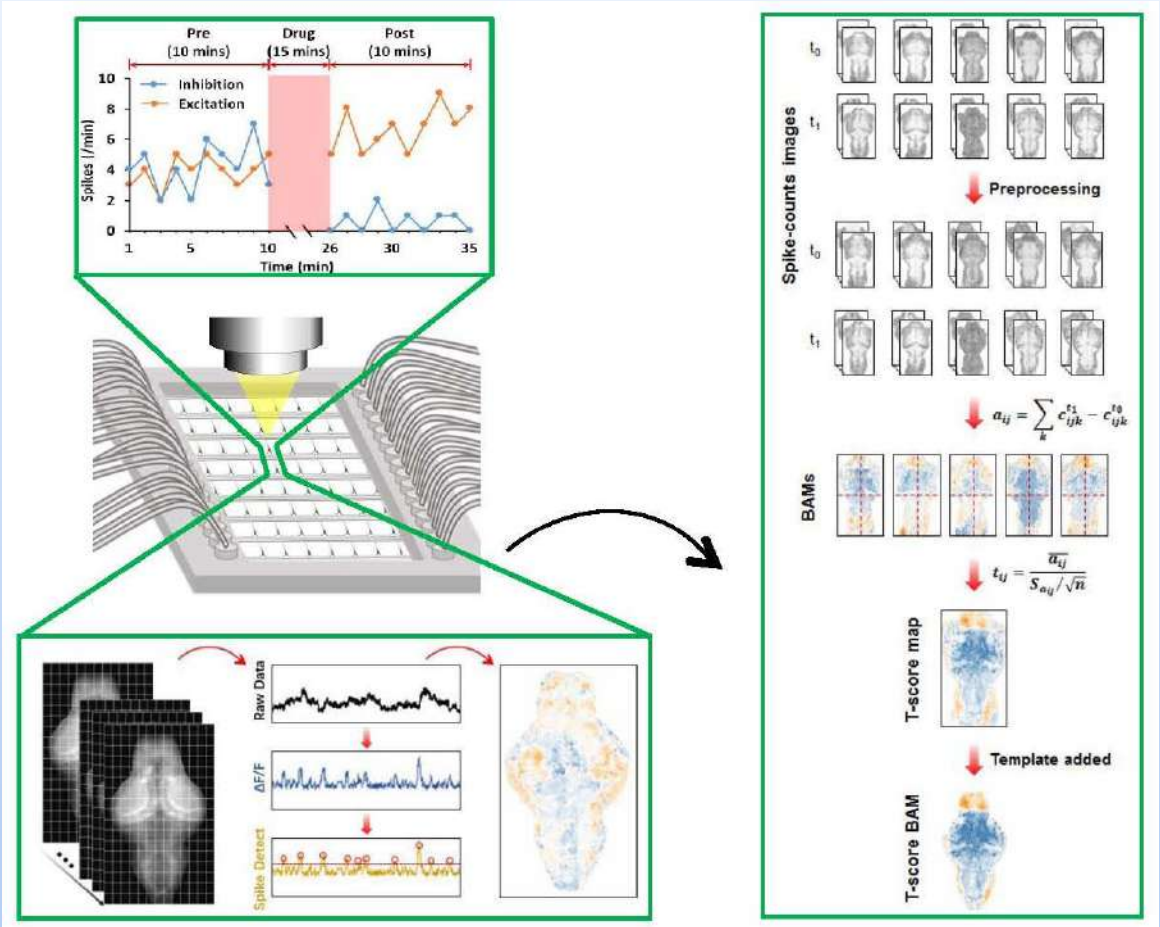
Robotic arm automatic fish loading system

High-throughput Screening Platform - Data Collection System

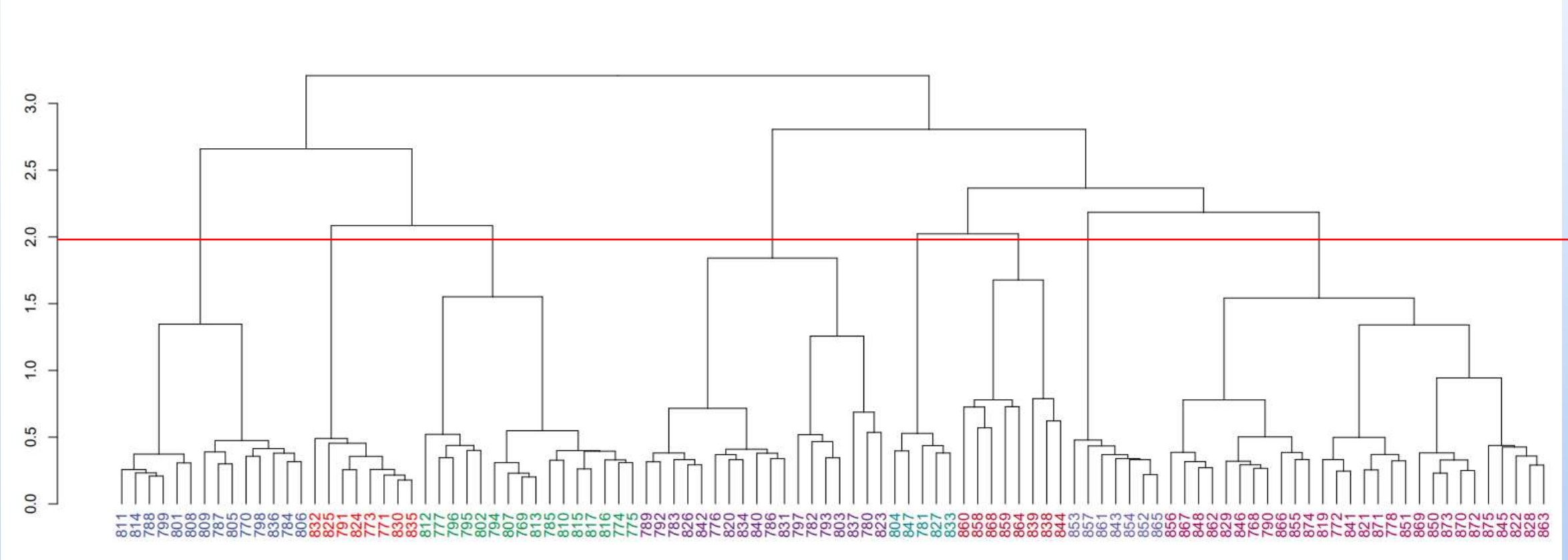


Machine Learning Algorithms

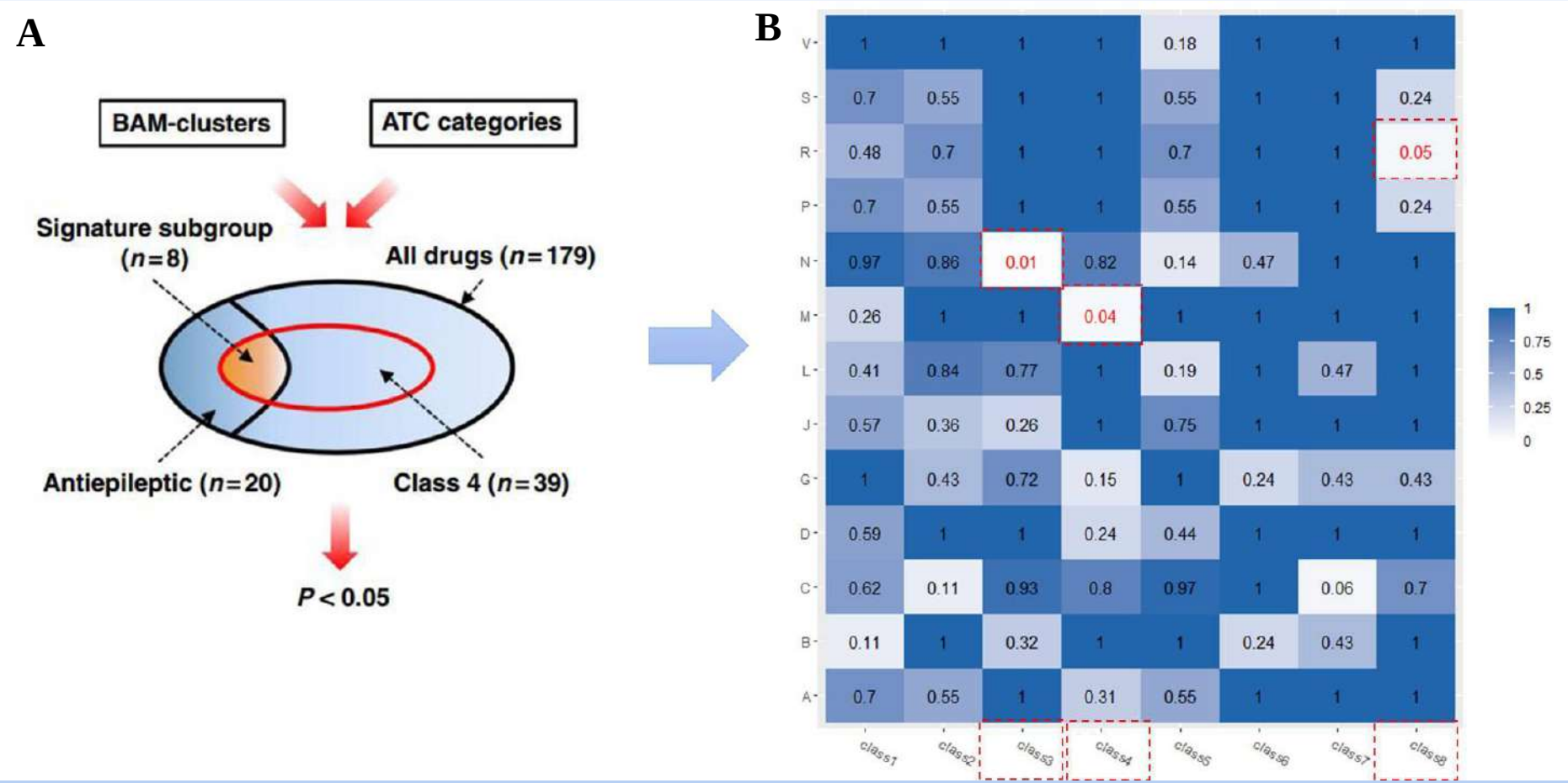




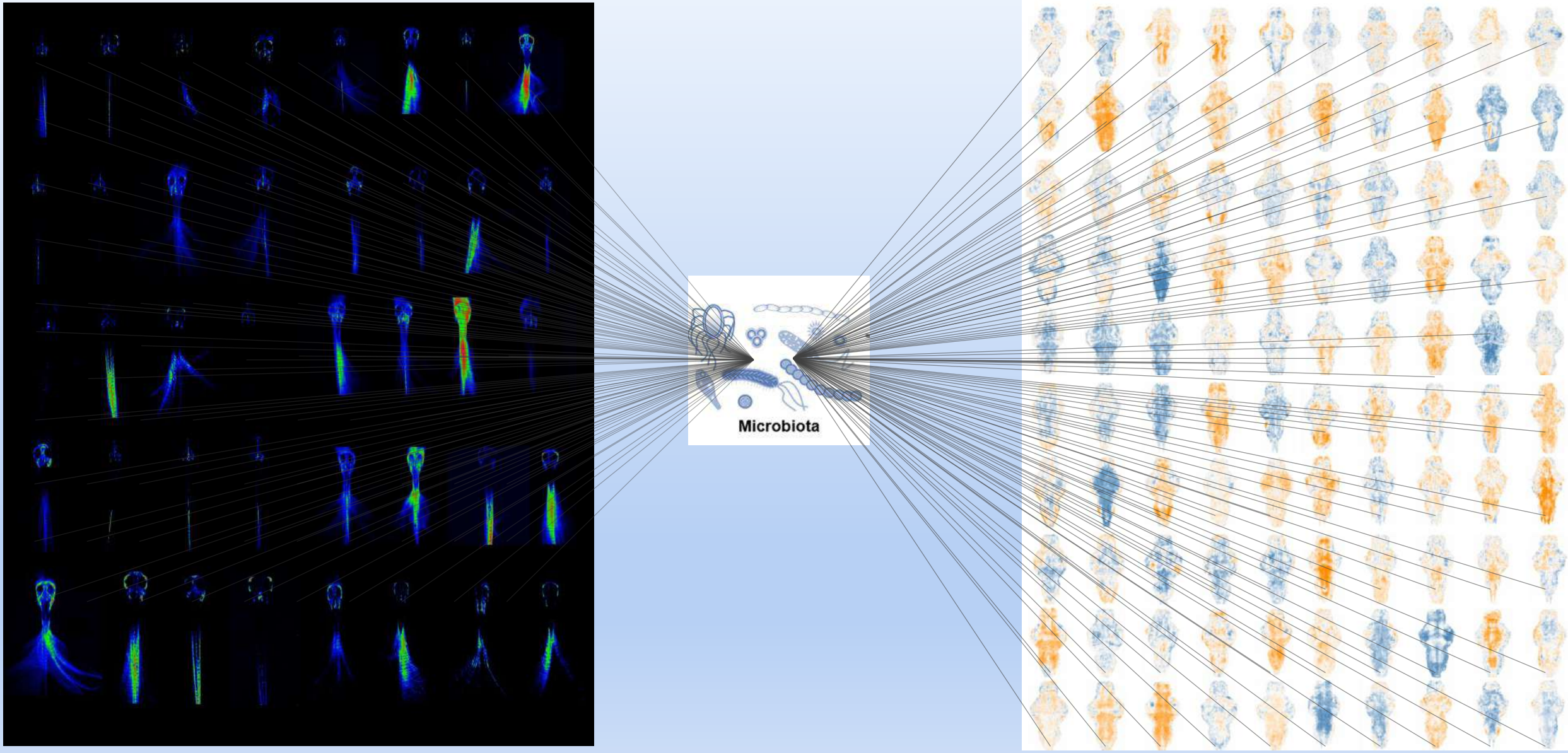
Reference Database Drug Clustering Analysis



Functional Association with Clusters



Non-modeled High-throughput Intelligent Screening



Mechanism Interpretation

GABA receptor agonists AMPA receptor agonists HDAC receptor agonists

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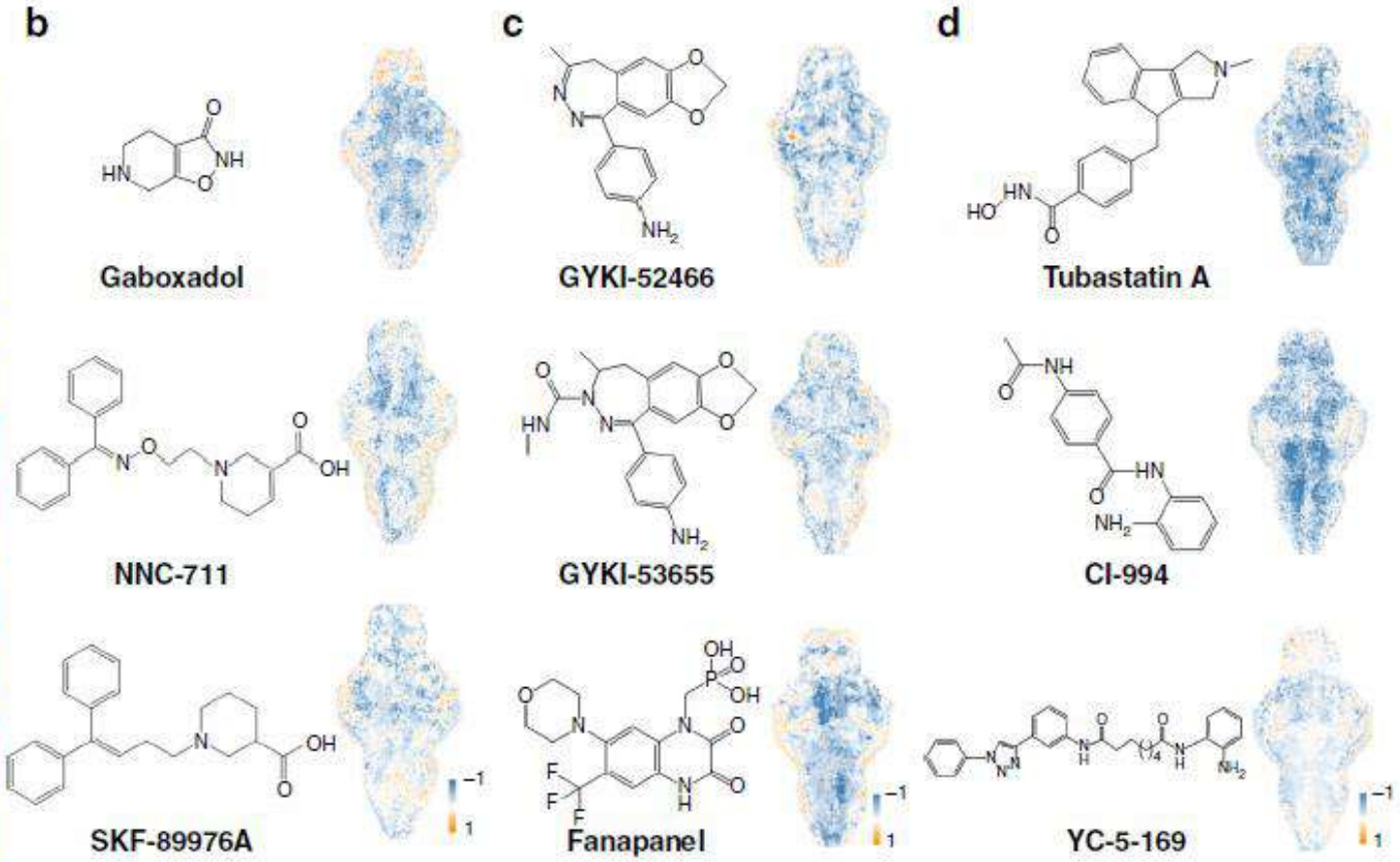
Rank	Name	Targets
2	SB-216763	GSK3 inhibitor
3	Pikamilone	GABA modulator
5	Gaboxadol	GABA modulator
6	AR-A014418	GSK3 inhibitor
8	Tubastatin A	HDAC inhibitor
9	TWS119	GSK3 inhibitor
11	GYKI-52466	AMPA modulator
13	CI-994	HDAC inhibitor
14	ING-135	GSK3 inhibitor
16	GYKI-53655	AMPA modulator
21	NNC-711	GABA modulator
25	Fanapanel	AMPA modulator
26	YC-5-169	HDAC inhibitor
29	SKF-89976A	GABA modulator



Lactobacillus Paracasei R3 Alleviates Colitis

Huang *et al. J Transl Med* (2021) 19:356
https://doi.org/10.1186/s12967-021-02943-x

Journal of Translational Medicine

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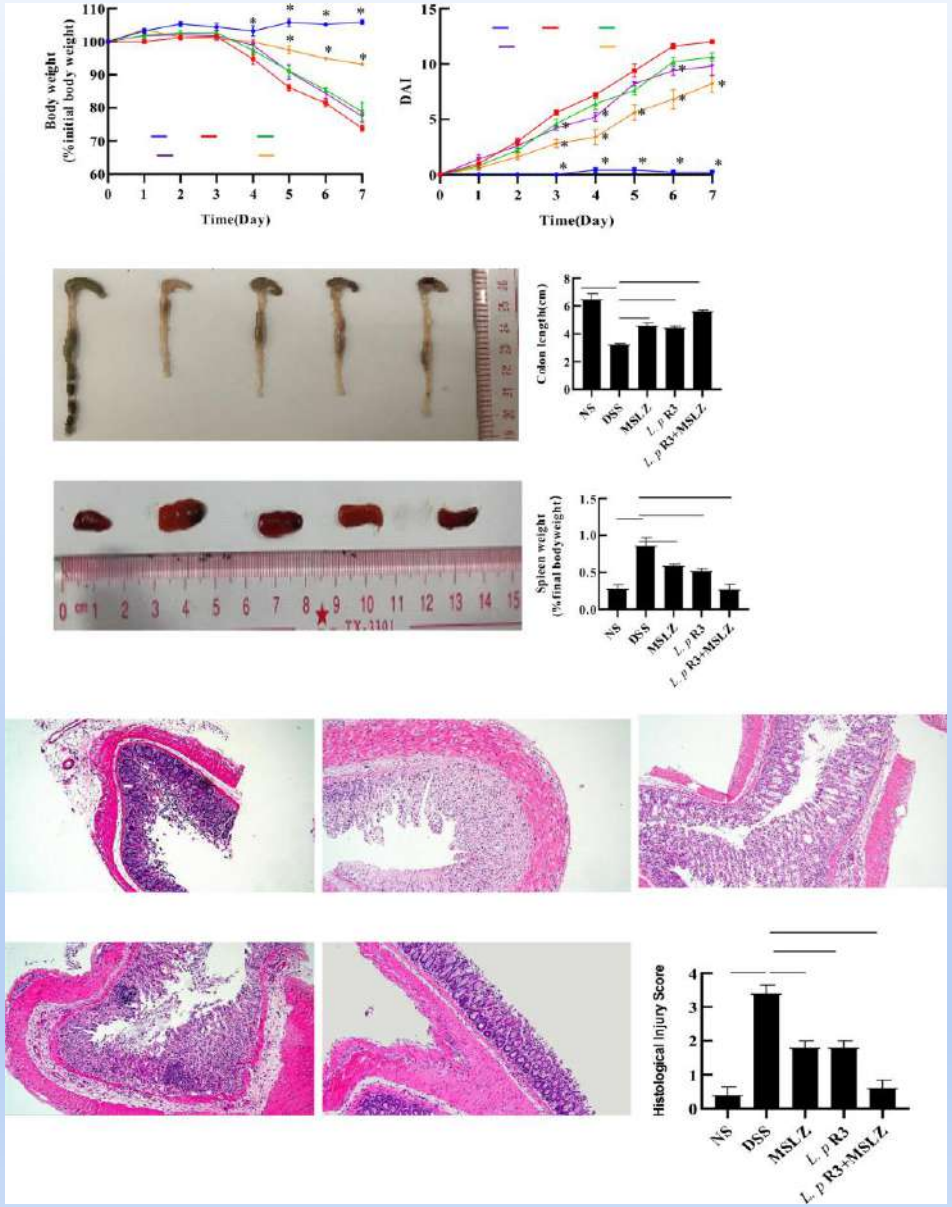
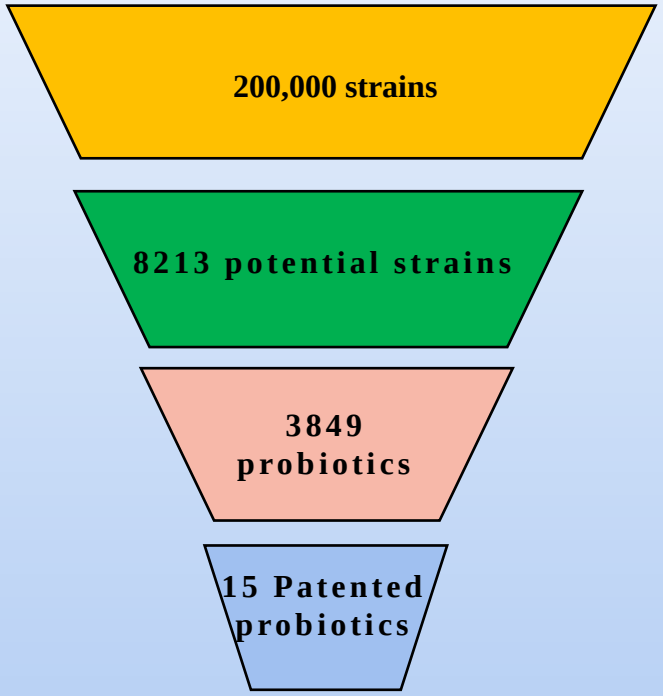
Lactobacillus paracasei R3 protects against dextran sulfate sodium (DSS)-induced colitis in mice via regulating Th17/Treg cell balance

Juan Huang[1,4†], Ziyan Yang[1,6†], Yanyun Li[1†], Xingxing Chai[1], Yanfang Liang[2], Bihua Lin[1], Ziyu Ye[1], Shaobing Zhang[1], Zhengping Che[1], Hailiang Zhang[1], Xueying Zhang[1], Zhao Zhang[1,3], Tao Chen[1,3], Weiqing Yang[1,5] and Jincheng Zeng[1*]



Platform Research Achievements




Lab On A Chip
Thank You For Watching!