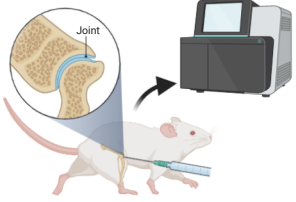
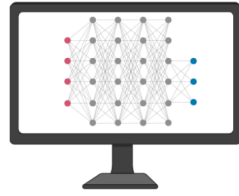


scRNA-seq processing

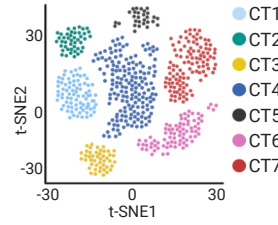
scRNA-seq of AIA mice



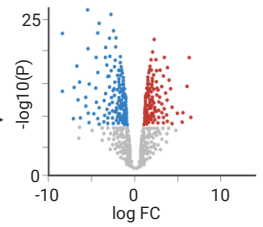
Quality control & data denoising



Clustering & cell typing

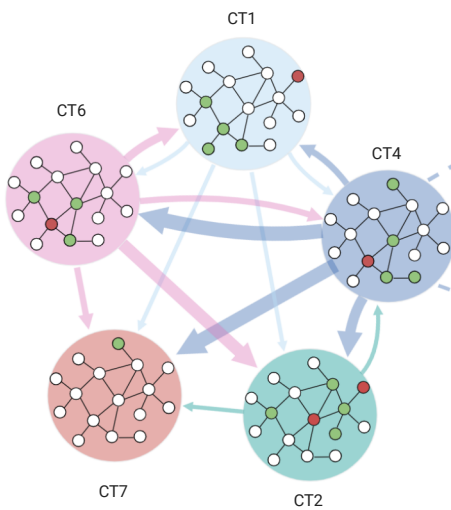


DEG calculation for all cell types



Intercellular disease model

MCDM interaction network

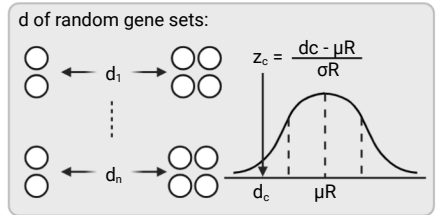
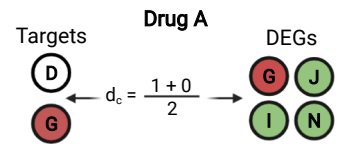
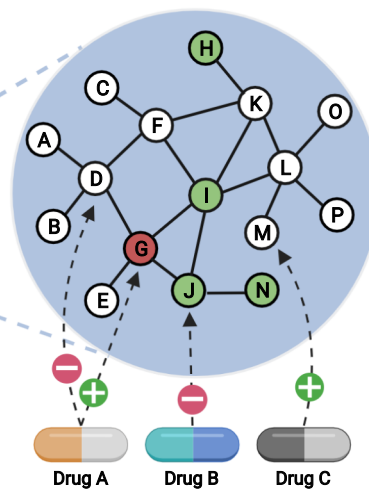


Intercellular centrality

Cell type	Centrality
CT1	0.5
CT2	0.3
CT4	1.0
CT6	0.8
CT7	0.1

Intracellular disease model

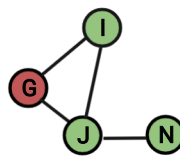
Selection of drug candidates



- + Stimulation
- Inhibition
- Upregulated DEG
- Downregulated DEG

Drug target centrality in intracellular disease module

Selection of LCC



DEG	Centrality
G	0.7
I	0.7
J	1.0
N	0.1

Drug target centrality

	Geometric mean target centrality
Drug A	0.7
Drug B	1.0
Drug C	0

Drug ranking

	Intercellular centrality			Drug target centrality		
Cell type	Drug A	Drug B	Drug C	Drug A	Drug B	Drug C
CT1	0.5	0.5	0.5	1.0	0.3	0.0
CT2	0.3	0.3	0.3	0.0	0.0	0.2
CT4	1.0	1.0	1.0	0.7	1.0	0.0
CT6	0.8	0.8	0.8	1.0	0.7	0.0
CT7	0.1	0.1	0.1	0.0	0.0	0.0
Combined	1.8	2.3	X	0.8	0.6	X

Ranked candidates

- #1 ● Drug B
- #2 ● Drug A