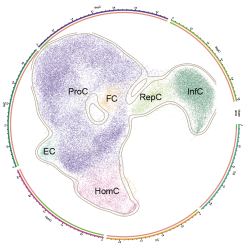
Single-cell sequencing data processing

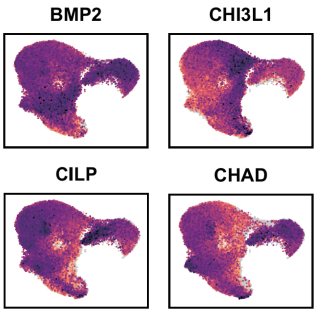
Gene Expression Omnibus

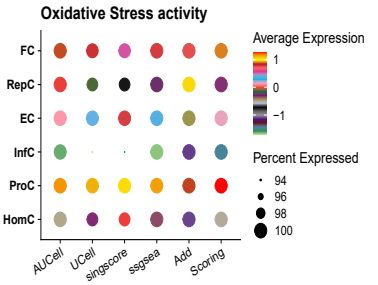
Human articular chondrocytes: GSE169454

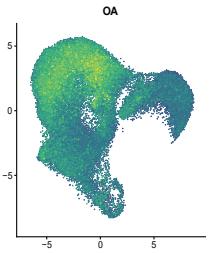
(Normal:OA=3:4)

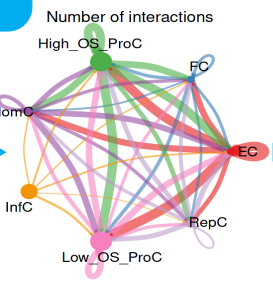
VS

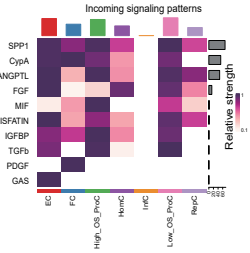


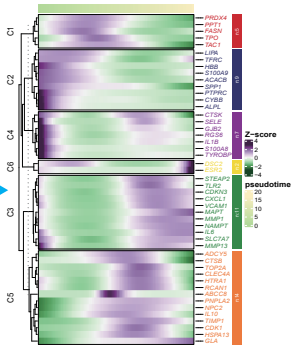


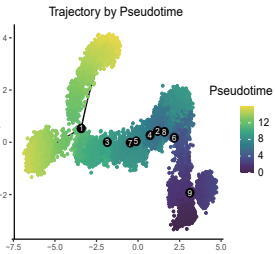






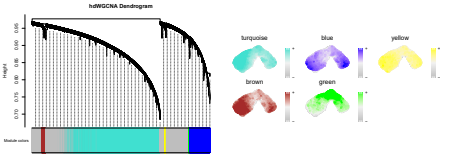






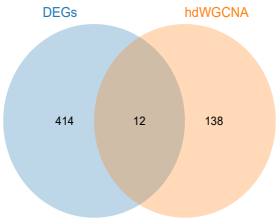
Core gene selection

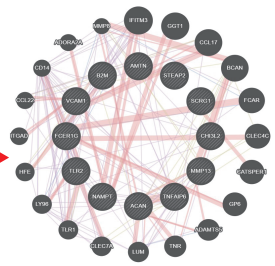
hdWGCNA



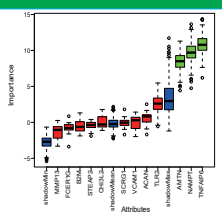
GeneCards® THE HUMAN GENE DATABASE

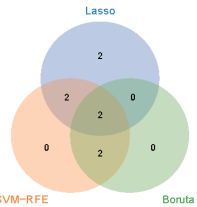
Oxidative stress-linked genes (https://www.genecards.org)

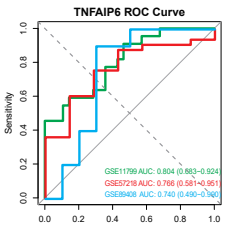


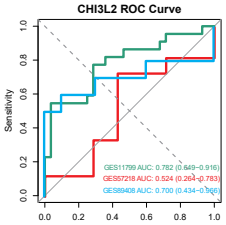


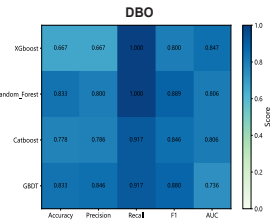
Machine learning

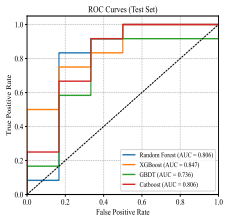


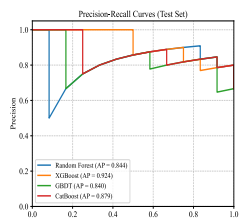


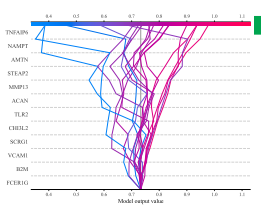


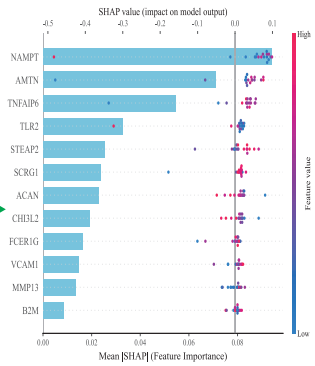






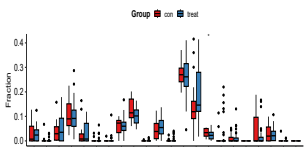




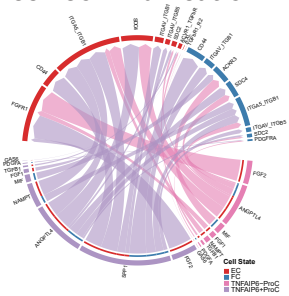


multi-factor authentication

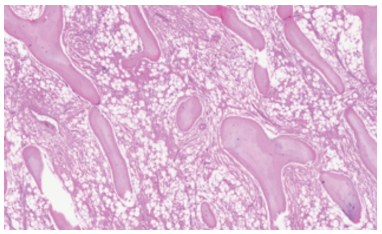
Immune landscape

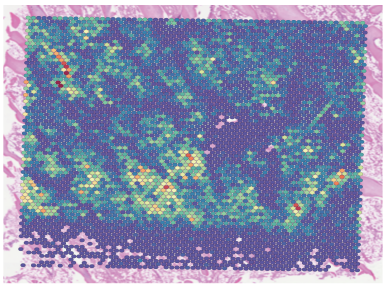


cell communication

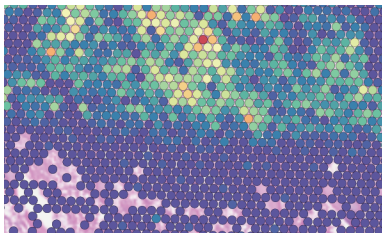


Spatial transcriptomics and Mendelian Randomisation





HE staining



ProC enrichement

exposure	method	nsnp	pval	OR (95% CI)
CHI3L2	Inverse variance weighted	5	0.675	1.05 (0.85 to 1.30)
	MR Egger	5	0.996	1.00 (0.64 to 1.56)
	Simple mode	5	0.614	1.11 (0.76 to 1.64)
	Weighted median	5	0.585	1.07 (0.84 to 1.36)
	Weighted mode	5	0.633	1.08 (0.81 to 1.43)
NAMPT	Inverse variance weighted	3	0.081	0.70 (0.46 to 1.05)
	MR Egger	3	0.639	0.18 (0.00 to 34.35)
	Simple mode	3	0.233	0.59 (0.33 to 1.09)
	Weighted median	3	0.077	0.64 (0.38 to 1.05)
	Weighted mode	3	0.234	0.60 (0.33 to 1.09)
TNFAIP6	Inverse variance weighted	5	0.008	0.86 (0.76 to 0.96)
	MR Egger	5	0.272	0.90 (0.77 to 1.05)
	Simple mode	5	0.201	0.67 (0.40 to 1.12)
	Weighted median	5	0.006	0.86 (0.78 to 0.96)
	Weighted mode	5	0.054	0.87 (0.78 to 0.96)