

## Supplementary Figure legends

**Table S1.** Demographic and clinical characteristics of 212 HCC patients.

**Figure S1.** Protein expressions of HLA family members in liver. A-N: HLA- B, DMA, DMB, DOA, DOB, DPA1, DPB1, DQA1, DQB1, DRA, DRB1, E, and G respectively.

**Figure S2.** Bodymap of HLA family members in human. A-R: *HLA-A, B, C, DMA, DMB, DOA, DOB, DPA1, DPB1, DQA1, DQB1, DQB2, DRA, DRB1, DRB6, E, F, G* respectively.

**Figure S3.** Gene set enrichment analysis results of *HLA-C* gene. A-L: Results of biological processes; M-P: Results of KEGG pathways.

**Figure S4.** Gene set enrichment analysis results of *HLA-DPA1* gene. A-L: Results of biological processes; M-P: Results of KEGG pathways.

**Figure S5.** Gene set enrichment analysis results of *HLA-DQA1* gene. A-J: Results of biological processes; K-L: Results of KEGG pathways.

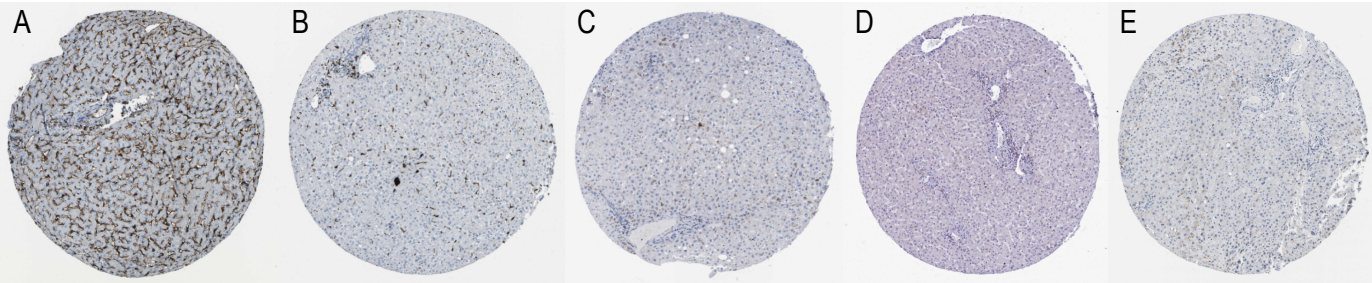
**Figure S6.** GO terms of HLA family genes enriched. A: Biological process, B: Cellular component, C: Molecular function.

Table S1. Demographic and clinical characteristics of 212 HCC patients

Variables	Patients (n=212)	Overall survival				Recurrence-free survival			
		No. of event	MST (month)	HR (95%CI)	<i>P</i> value	No. of event	MST (month)	HR (95%CI)	<i>P</i> value
Gender									
Male	183	74	NA	Ref.		106	40.10	Ref.	
Female	29	8	NA	0.587 (0.283-1.218)	0.152	10	NA	<b>0.467 (0.244-0.893)</b>	<b>0.021</b>
Age									
≤60 years	175	69	NA	Ref.		96	45.90	Ref.	
>60 years	37	13	NA	0.864 (0.478-1.564)	0.630	20	48.00	0.974(0.602-1.578)	0.916
HBV status									
AVR-CC	56	25	NA	Ref.		35	28.80	Ref.	
CC	156	57	NA	0.747 (0.467-1.196)	0.225	81	51.10	0.751(0.505-1.117)	0.158
Tumor size <sup>§</sup>									
≤5 cm	137	46	NA	Ref.		73	51.10	Ref.	
>5 cm	74	36	53.30	<b>1.975 (1.274-3.060)</b>	<b>0.002</b>	43	28.40	1.409(0.966-2.056)	0.075
Cirrhosis									

Yes	195	80	NA	Ref.		111	37.90	Ref.		
No	17	2	NA	<b>0.231 (0.057-0.939)</b>	<b>0.041</b>	5	NA	<b>0.383(0.156-0.938)</b>	<b>0.036</b>	
Multinodular										
Yes	45	23	47.90	Ref.		26	28.70	Ref.		
No	167	59	NA	0.622 (0.384-1.008)	0.054	90	49.10	0.823(0.531-1.274)	0.382	
AFP <sup>£</sup>										
≤300 ng/ml	115	39	NA	Ref.		62	48.00	Ref.		
>300 ng/ml	94	43	NA	<b>1.546 (1.002-2.385)</b>	<b>0.049</b>	54	35.20	1.200(0.833-1.728)	0.328	
BCLC stage										
0	20	2	NA	Ref.	<b>&lt;0.0001</b>	6	NA	Ref.	<b>&lt;0.0001</b>	
A	143	48	NA	<b>4.119(1.001-16.951)</b>	<b>0.050</b>	74	51.60	2.050(0.892-4.711)	0.091	
B	22	12	46.10	<b>8.992(2.005-40.320)</b>	<b>0.004</b>	15	26.90	<b>4.019(1.550-10.421)</b>	<b>0.004</b>	
C	27	20	13.60	<b>18.993(4.419-81.632)</b>	<b>&lt;0.0001</b>	21	8.90	<b>6.163(2.477-15.333)</b>	<b>&lt;0.0001</b>	

Note: §: One data were missing; £: three data were missing.



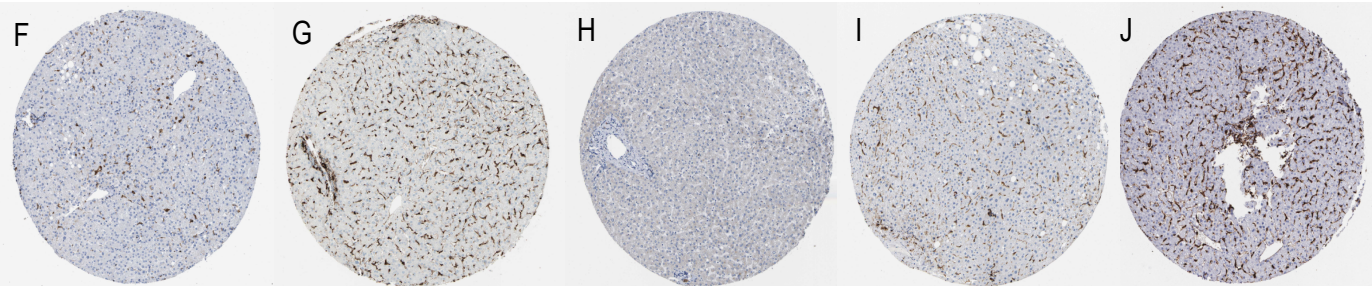
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HLA-DMA

HLA-DMB

HLA-DOA

HLA-DOB



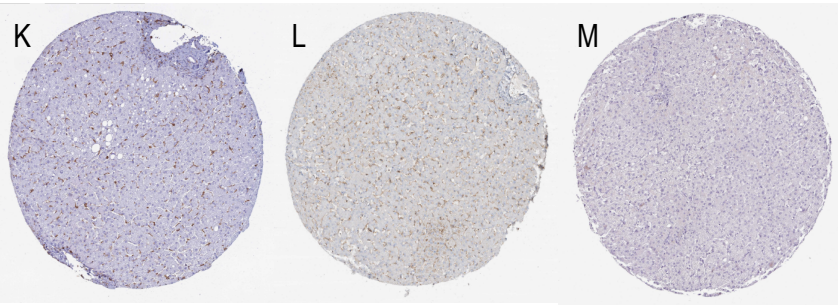
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HLA-DPB1

HLA-DQA1

HLA-DQB1

HLA-DRA

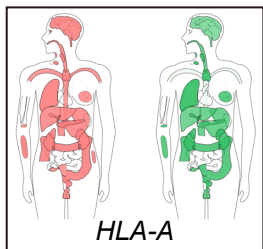


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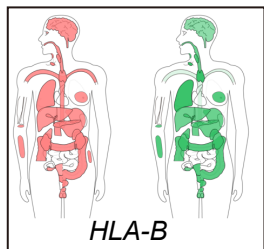
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HLA-G

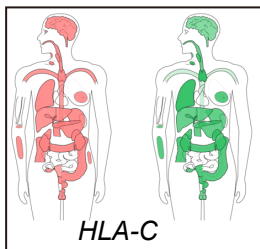
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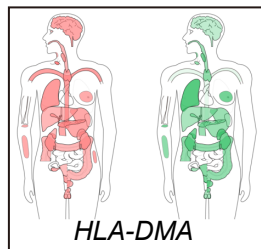
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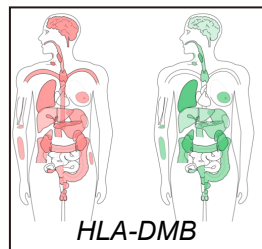
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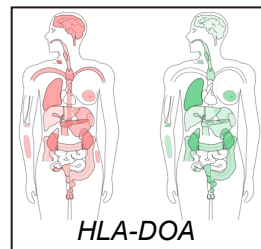
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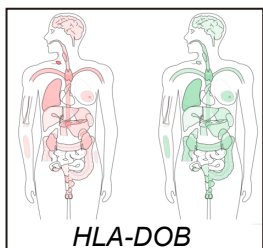
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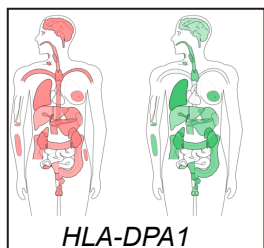
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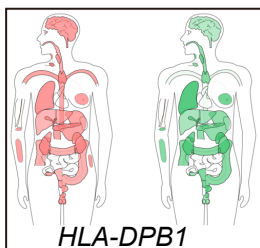
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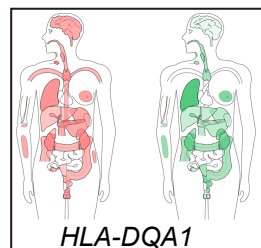
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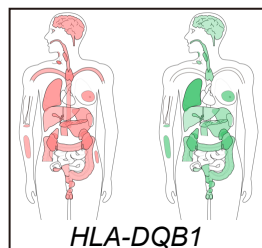
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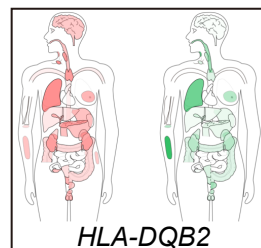
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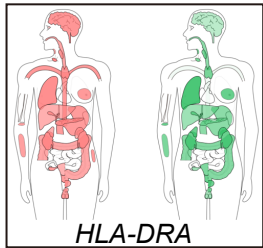
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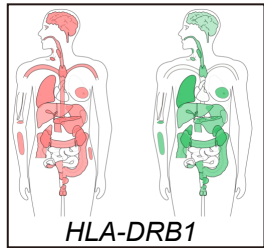
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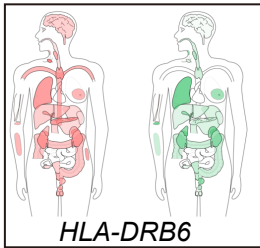
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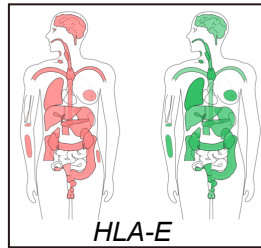
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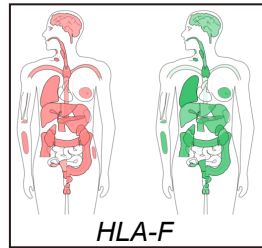
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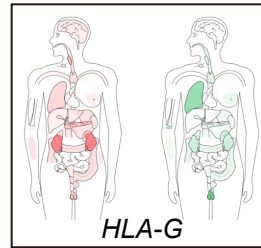
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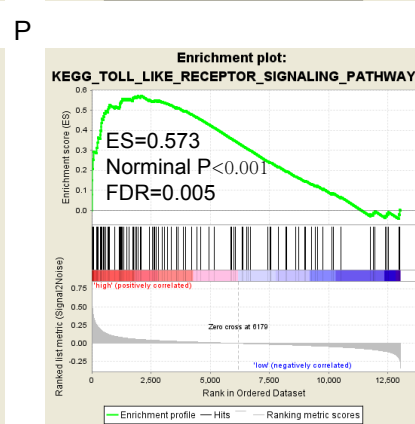
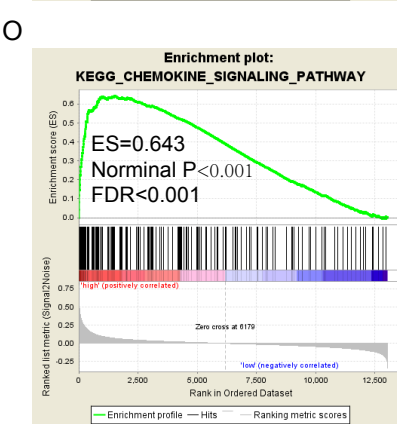
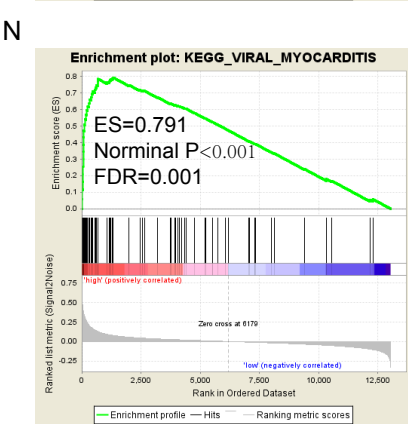
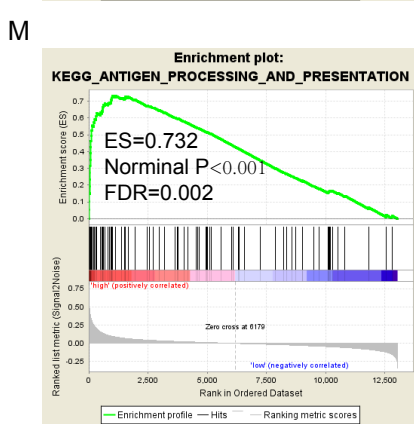
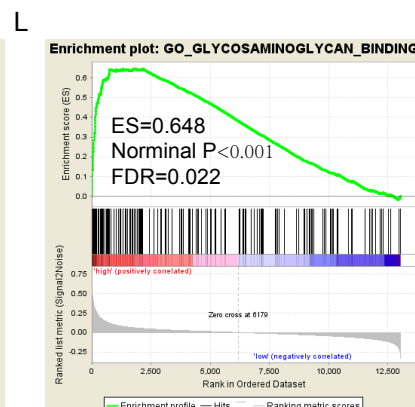
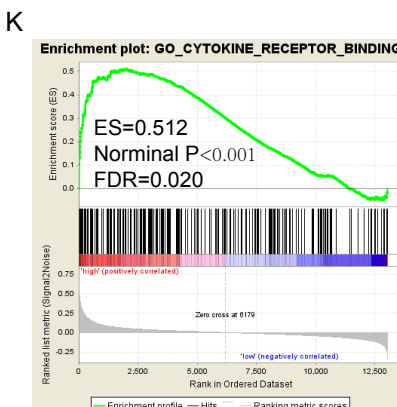
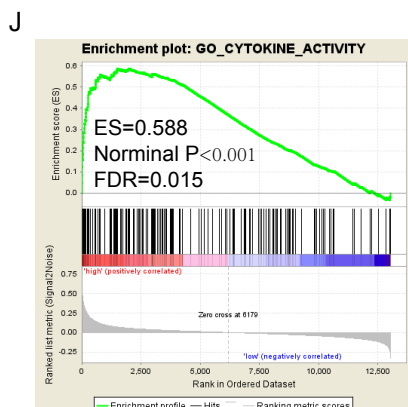
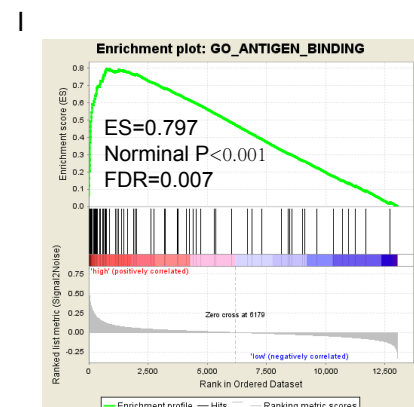
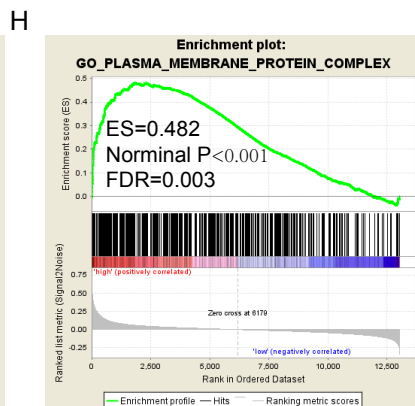
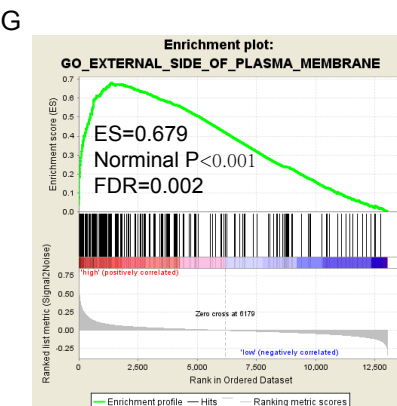
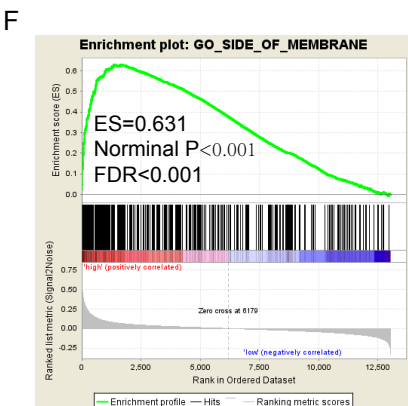
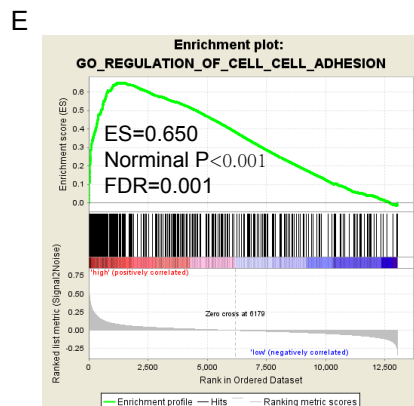
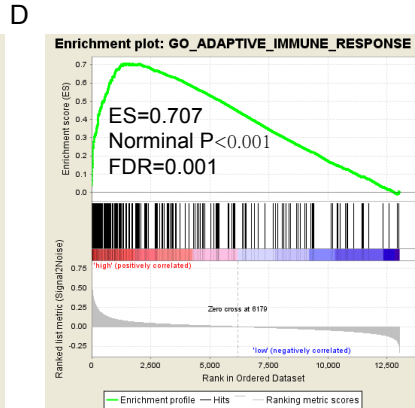
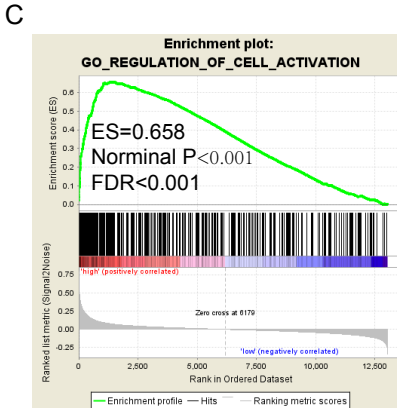
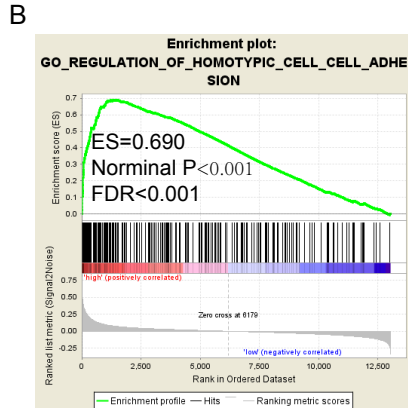
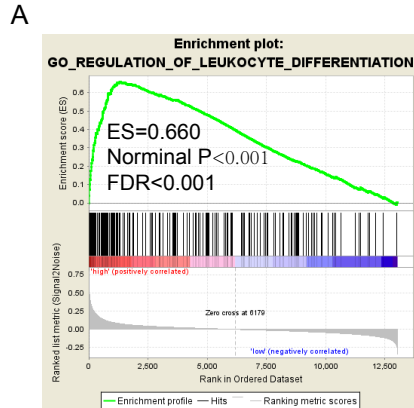


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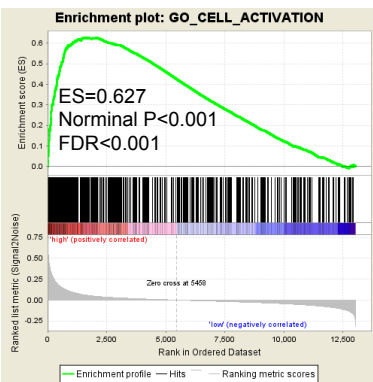


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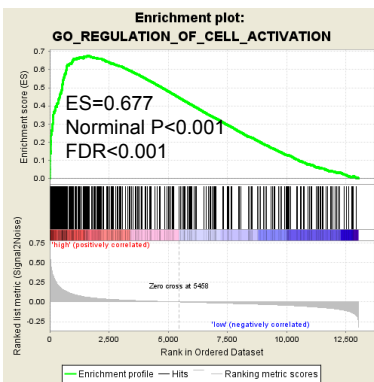




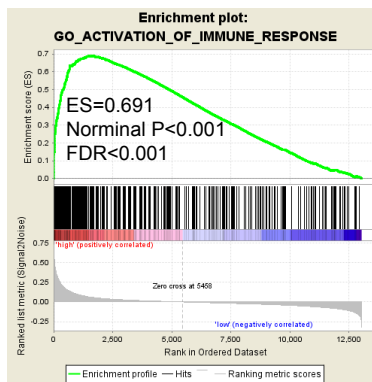
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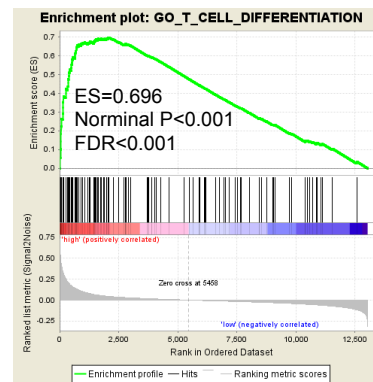
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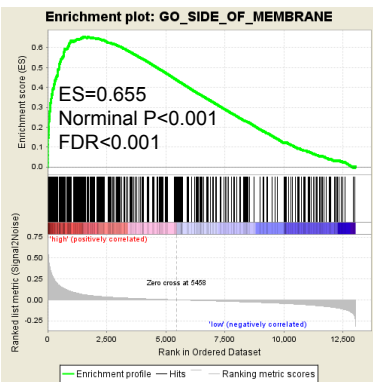
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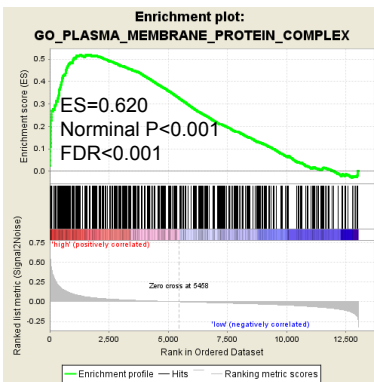
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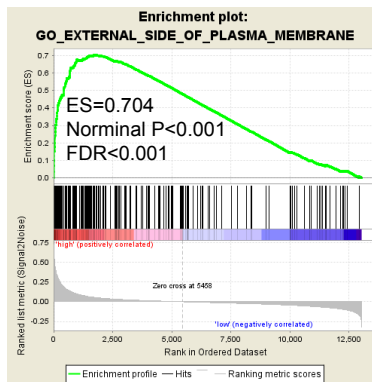
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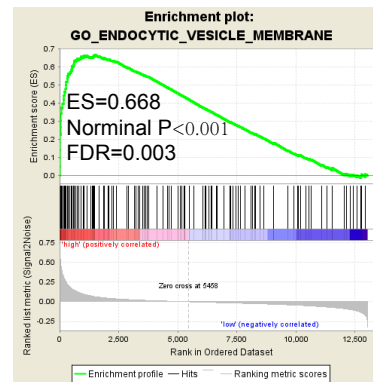
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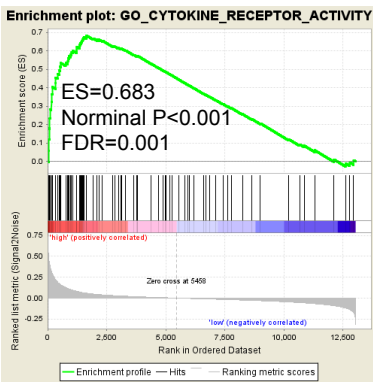
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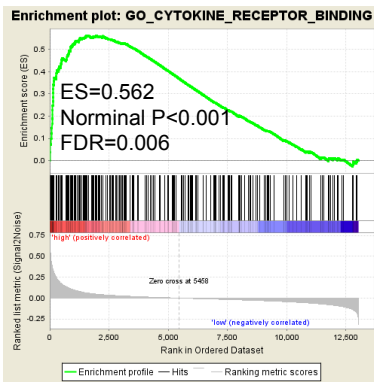
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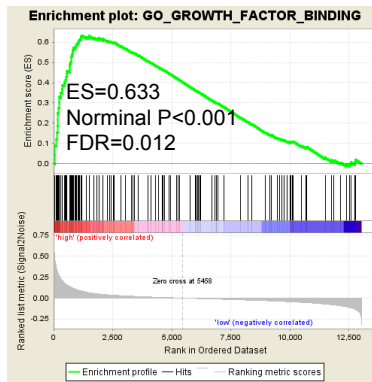
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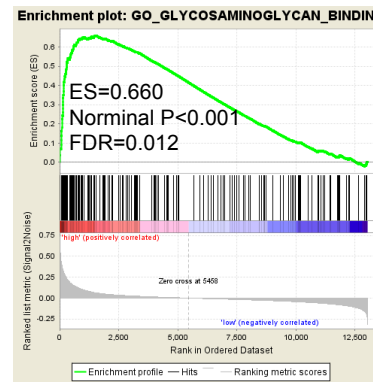
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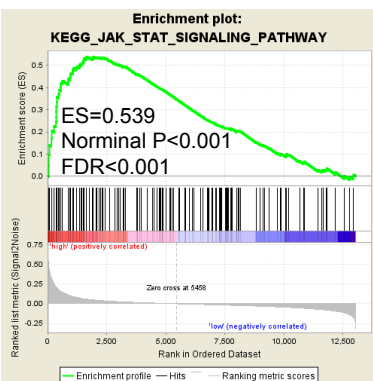
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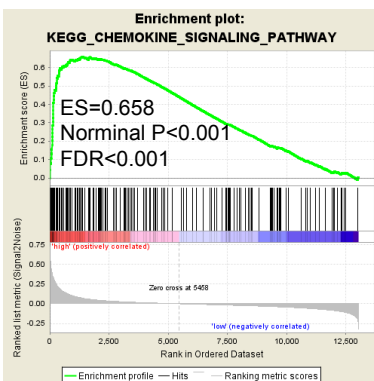
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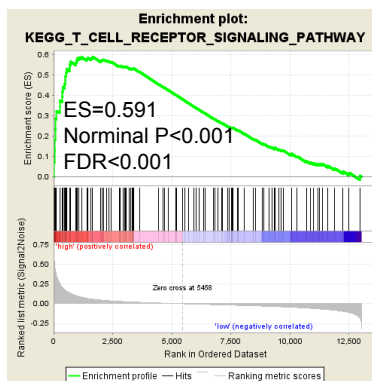
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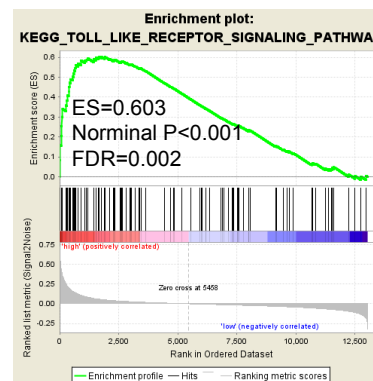
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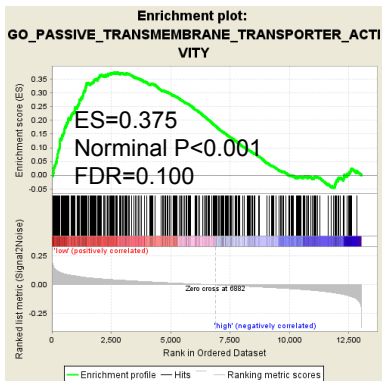
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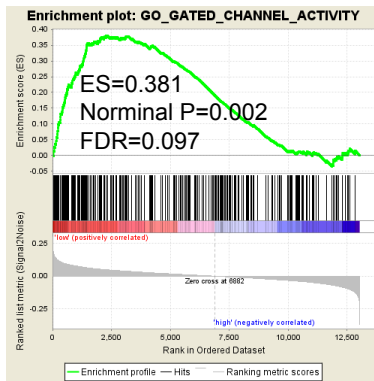
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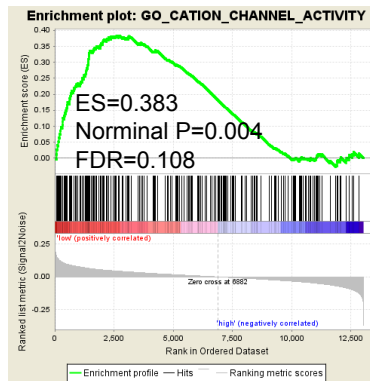
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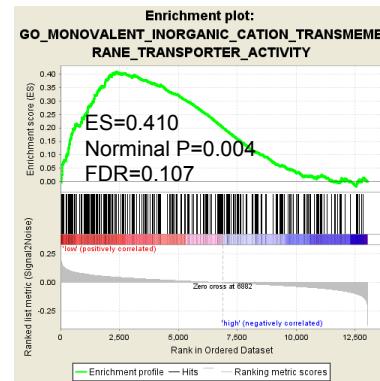
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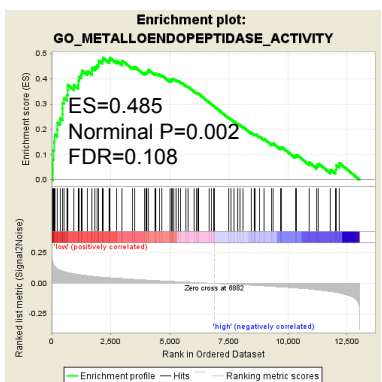
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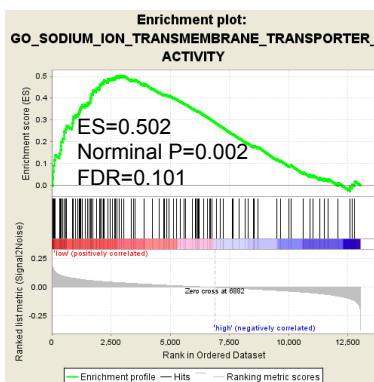
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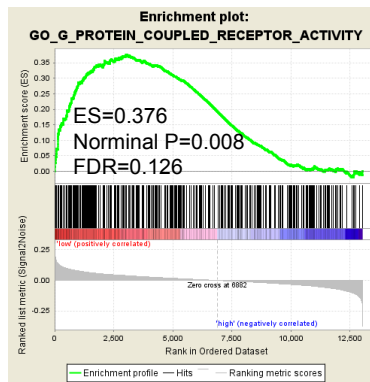
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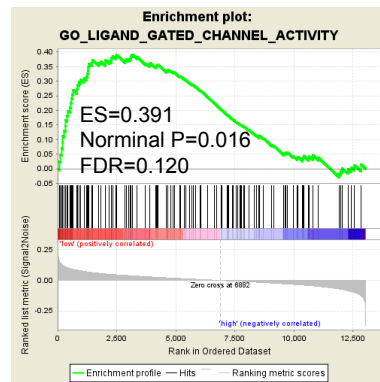
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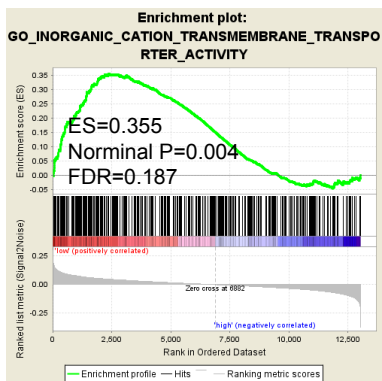
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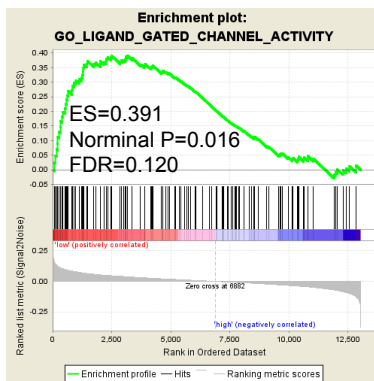
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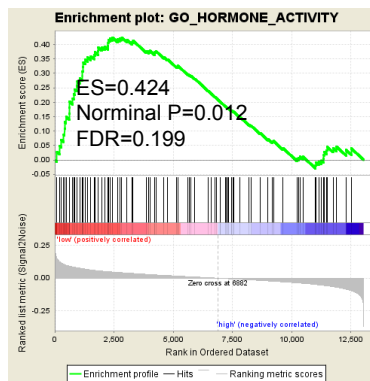
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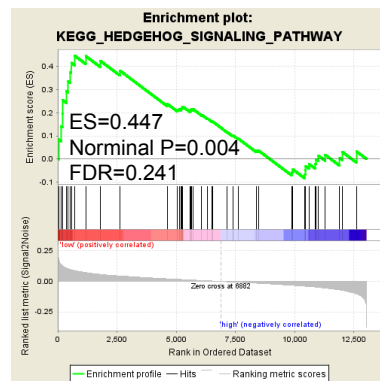
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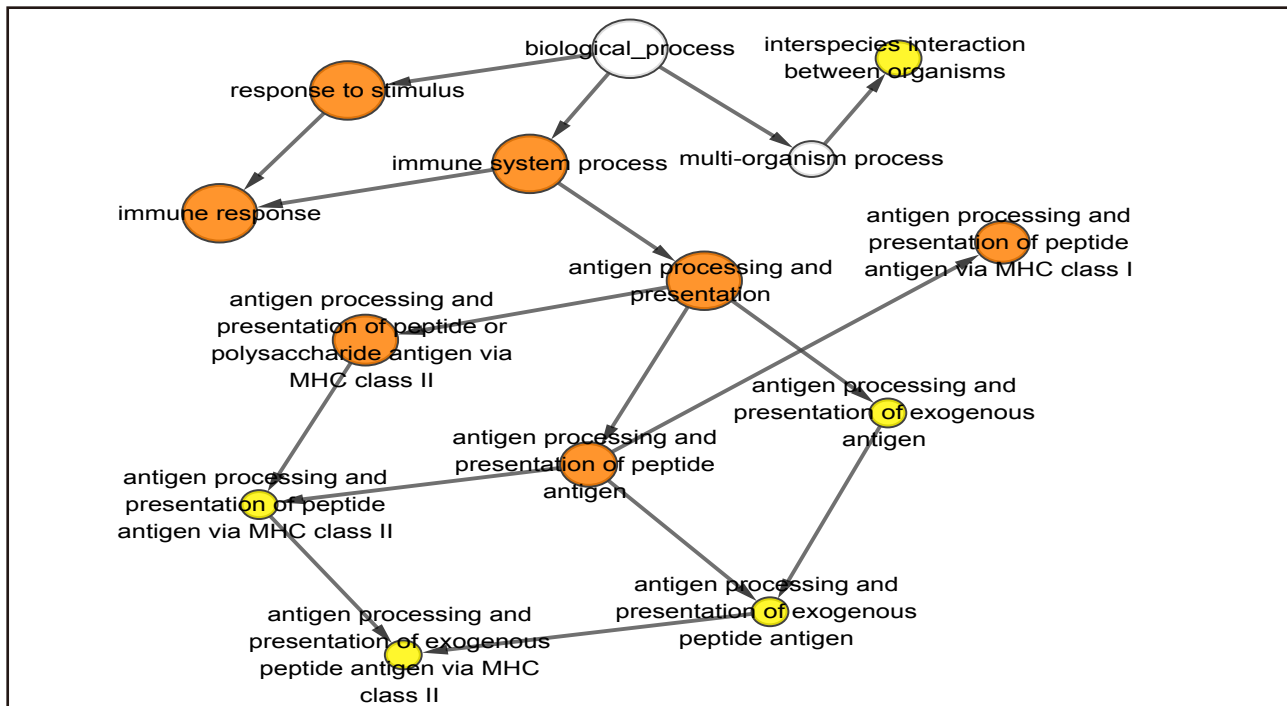


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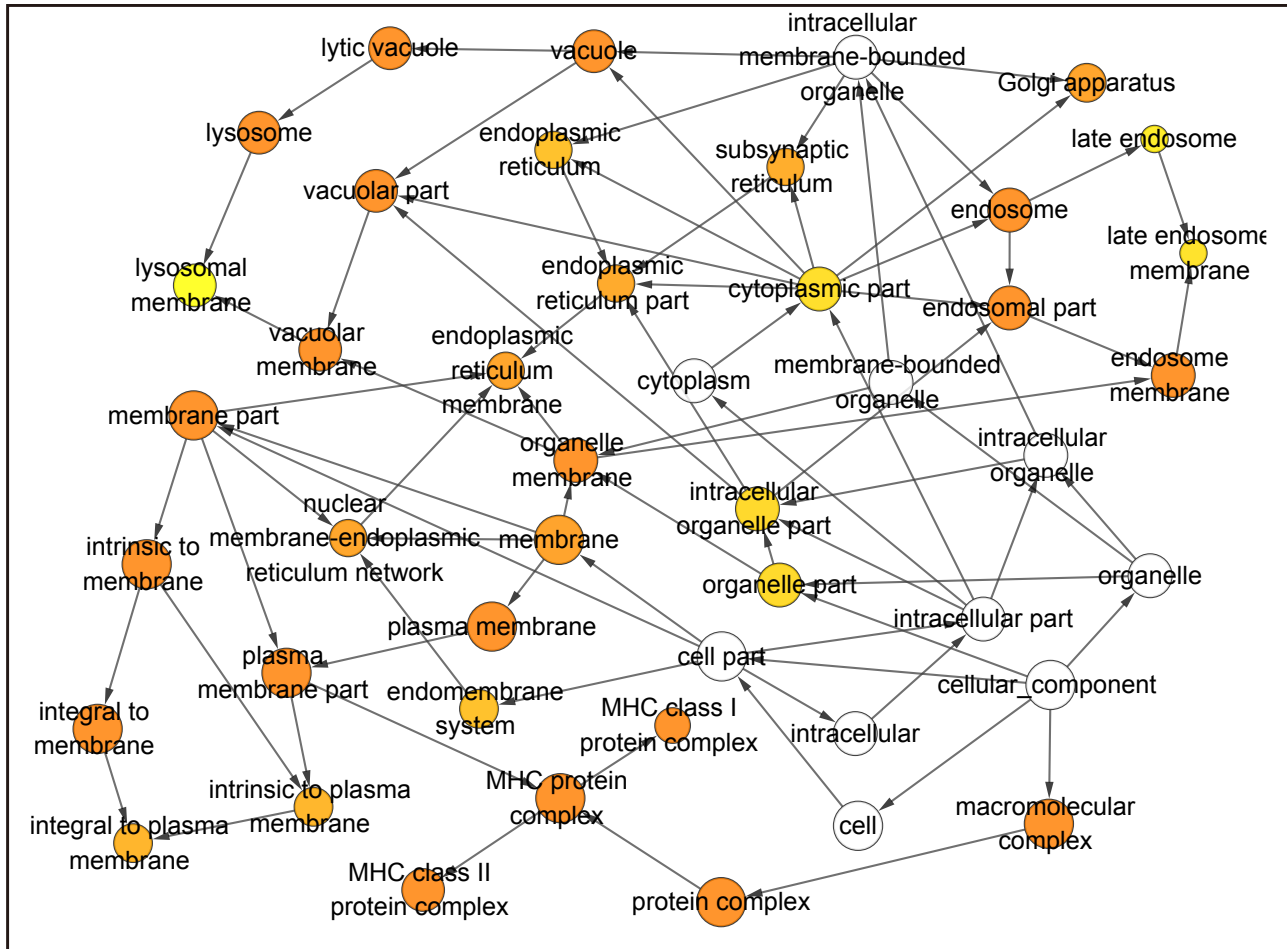




A



B



C

