Analysis

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1 摘要

1.1 主要生信部分

- Sjogren syndrome (SS), a chronic autoimmune disease

- 复方，Xuanmai Ganju (XMGJ)

原文以 GEO 做 SS 差异表达基因筛选，获取 XMGJ 的成分和靶点信息，构建 PPI 网络，筛选治疗疾病靶点。

1.2 修正内容

- 原文使用的是 TCMSP database https://tcmspw.com/tcmsp.php 检索复方成分数据和靶点数据，由于订单中不包含该部分原数据，所以该内容已全部重新分析。数据库修改为 HERB[1] (http://herb.ac.cn/)。
- GEO 数据的分析全部修正。
- 以上部分对应的图片全部修正。
- 具体使用的方法可参考5 中的文献引用。
- 需要修正的部分已在原文稿中高亮标注，需要改成本文档 5 对应内容。

2 前言

3 研究设计流程图

4 材料和方法

数据来源为 GEO（https://www.ncbi.nlm.nih.gov/geo/），见 7，主要有：

- GSE7451: Saliva
- GSE40611: Parotid gland
- GSE154926: Minor salivary glands
- GSE135635: Plasmacytoid dendritic cells

方法：

- HERB[1]，中药成分数据和靶点数据获取来源。
- clusterProfiler[2]，用于通路富集分析的 R 包。
- STRINGdb[3] 用于构建 PPI 网络。
- limma[4] 用于差异分析。
- 其他 R 包或 R 脚本用于分析计算或可视化。

5 分析结果

- 从 HERB 网站获取 XMGJ 的成分数据（Tab. 2）和成分对应的靶点数据（Tab. 3，Fig. 2）[1]。
- 以 4 个 GEO 数据集做差异分析[4]（SS versus healthy control, $|\log_2(FC)| > 0.3$, p.adjust < 0.05）（Fig. 7）得到 4 个 DEGs 集。
- 取 4 个 DEGs 集的合集，将其与 XMGJ 的靶点取交集（Fig. 8）（设交集为 IntSets）。
- 将 IntSets 基因集构建 PPI 网络（Fig. 9）[3]，以 MCC 算法筛选 top30 的基因（Fig. 10）[5]。

- 将 IntSets 基因集做富集分析[2]，发现：KEGG 首要富集于 “Chemokine signaling pathway”（Fig. 11）；GO 富集于 “leukocyte migration”, “chemokine binding” 等机体免疫行为密切相关的通路（Fig. 12）。KEGG 和 GO 富集分析结果一致，暗示了 XMGJ 治疗自身免疫性疾病 SS 的内在机制。
- MCC top30 的基因与 Chemokine signaling pathway 富集的基因有 34% 交集（Fig. 14），对应 14 个基因（7.5）。
- 趋化因子（Chemokine）是参与多种生物活性的蛋白质，它们的重要作用包括梯度的形成和免疫细胞募集[6,7]。
- Chemokine signaling pathway （Fig. 13）可能是 XMGJ 治疗 SS 的关键通路，通过调控趋化因子相关的基因表达，调节趋化因子结合、趋化因子受体结合活性，缓解 SS 过程中的白细胞迁移、白细胞介导的免疫反应（见 GO 富集结果 Fig. 12）；对应的基因（7.5）。XMGJ 相应的成分有 32 个（Tab. 13）。

注意：新的生信分析结果可以和原稿中的实验内容形成相互补充（例如，实验部分的 XMGJ reduces inflammatory cell infiltration）。

6 结论

见 5。

7 附：分析流程

7.1 复方成分和靶点

7.1.1 复方成分

Table 1为表格 Herbs information 概览。

(对应文件为 `Figure+Table/Herbs-information.xlsx`)

> 注：表格共有 8 行 18 列，以下预览的表格可能省略部分数据；表格含有 8 个唯一 ‘Herb_’。

Table 1: Herbs information

Herb_	Herb_...	Herb_...	Herb_...	Herb_...	Prope...	Merid...	UsePart	Function	Indic...	Toxicity
HERB0...	GAN CAO	甘草	Root ...	Radix...	Mild;...	Lung;...	root ...	To re...	1. It...	NA
HERB0...	HUANG...	黄柏	Amur ...	Phell...	Cold;...	Bladd...	bark	To dr...	Damp-...	NA
HERB0...	HUANG BO	黄柏	Phell...	Corte...	Cold;...	Bladd...	bark	1. To...	NA	NA
HERB0...	JIE GENG	桔梗	Platy...	Radix...	Mild;...	Lung	root	To re...	Cough...	NA
HERB0...	MAI DONG	麦冬	Lirio...	Ophio...	Minor...	Lung;...	tuberoid	To no...	Angin...	NA
HERB0...	TIAN ...	天花粉	Trich...	Radix...	Bitte...	Lung;...	root	To re...	Febri...	NA
HERB0...	XUAN ...	玄参	Figwo...	Radix...	Cold;...	Lung;...	root	To re...	Heat ...	NA
HERB0...	ZHI MU	知母	rhizo...	Rhizo...	Cold;...	Lung;...	rhizome	To re...	Diabe...	NA

Table 2为表格 Components of Herbs 概览。

(对应文件为 `Figure+Table/Components-of-Herbs.xlsx`)

> 注：表格共有 1242 行 4 列，以下预览的表格可能省略部分数据；表格含有 1127 个唯一 'Ingredient.name'。

Table 2: Components of Herbs

herb_id	Ingre……2	Ingre……3	Ingre……4
HERB0…	HBIN0…	11-de…	11-De…
HERB0…	HBIN0…	12-me…	12-me…
HERB0…	HBIN0…	1,3-d…	1,3-d…
HERB0…	HBIN0…	1,3-d…	1,3-d…
HERB0…	HBIN0…	1-(5-…	(E)-1…
HERB0…	HBIN0…	18alp…	J-008…
HERB0…	HBIN0…	18 -h…	18 -h…
HERB0…	HBIN0…	18bet…	AJ-72…
HERB0…	HBIN0…	1-Met…	AIDS-…
HERB0…	HBIN0…	1-Met…	AIDS-…
HERB0…	HBIN0…	(1S,2…	cyclo…
HERB0…	HBIN0…	21987…	(1S,3…
HERB0…	HBIN0…	22 -a…	NA
HERB0…	HBIN0…	2,2-D…	EINEC…
HERB0…	HBIN0…	2-(3,…	2-(3,…
…	…	…	…

Figure 1为图 intersection of all compounds 概览。

(对应文件为 `Figure+Table/intersection-of-all-compounds.pdf`)

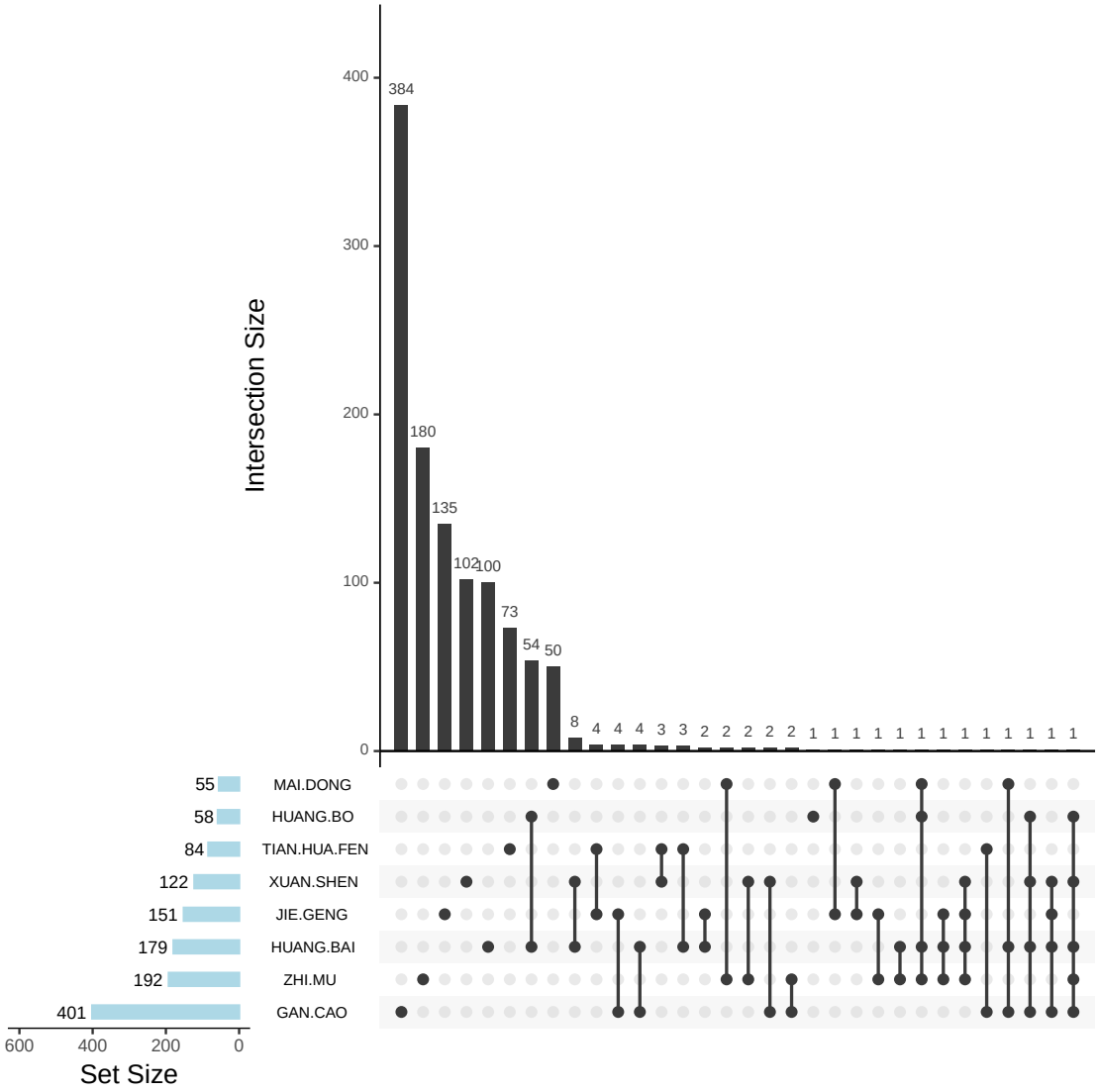

Figure 1: Intersection of all compounds

7.1.2 成分靶点

Table 3为表格 Components of the herbs and their targets 概览。

(对应文件为 `Figure+Table/Components-of-the-herbs-and-their-targets.xlsx`)

> 注：表格共有 11396 行 9 列，以下预览的表格可能省略部分数据；表格含有 1127 个唯一 'Ingredient.id'。

Table 3: Components of the herbs and their targets

Ingre……1	Herb_…	Ingre……3	Ingre……4	Targe……5	Targe……6	Datab…	Paper.id	…
HBIN0…	GAN CAO	11-de…	11-De…	NA	NA	NA	NA	…

Ingre……1	Herb_…	Ingre……3	Ingre……4	Targe……5	Targe……6	Datab…	Paper.id	…
HBIN0…	TIAN …	1-(2-…	BG014…	NA	NA	NA	NA	…
HBIN0…	GAN CAO	12-me…	12-me…	NA	NA	NA	NA	…
HBIN0…	ZHI MU	12-O-…	12-o-…	NA	NA	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	AR	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	CDK2	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	ESR1	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	GSK3B	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	MAPK14	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	CHEK1	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	PPARG	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	CCNA2	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	ESR2	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	CCNA2	NA	NA	…
HBIN0…	GAN CAO	1,3-d…	1,3-d…	HBTAR…	CDK2	NA	NA	…
…	…	…	…	…	…	…	…	…

Figure 2为图 intersection of all targets 概览。

(对应文件为 `Figure+Table/intersection-of-all-targets.pdf`)

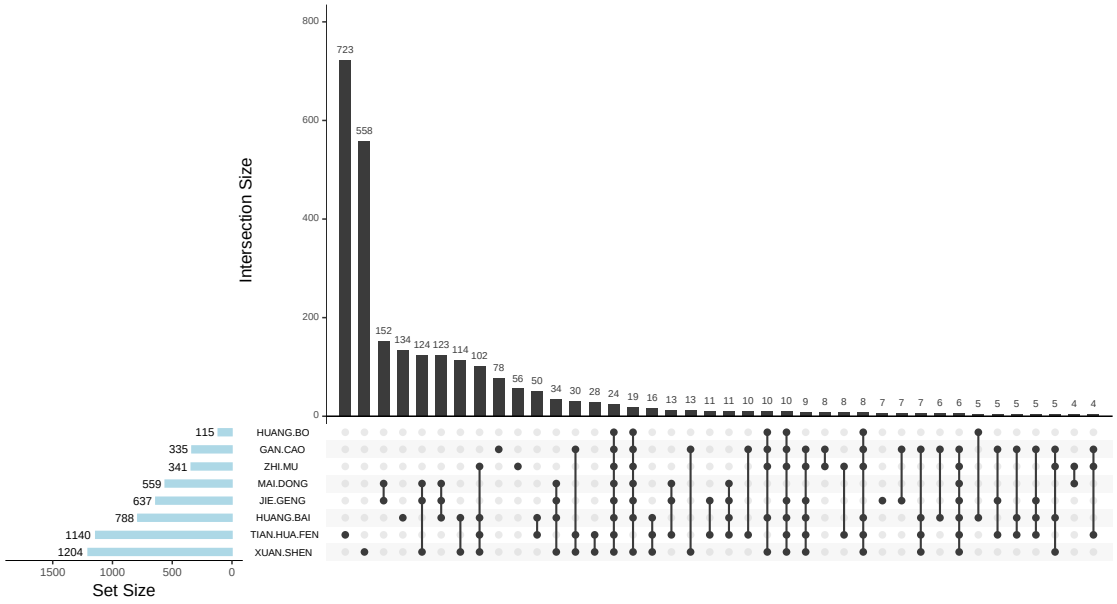

Figure 2: Intersection of all targets

7.2 GEO 数据分析

7.2.1 GSE7451: Gene profilling from 10 saliva samples from patients with primary Sojgren's syndrome and 10 saliva samples from control subjects using Affymetrix HGu133+2 microarray.

Table 4为表格 metadata of used samples of GSE7451 概览。

(对应文件为 `Figure+Table/metadata-of-used-samples-of-GSE7451.xlsx`)

> 注：表格共有 20 行 7 列，以下预览的表格可能省略部分数据；表格含有 2 个唯一 'group'。

Table 4: Metadata of used samples of GSE7451

rownames	group	lib.size	norm....	sample	title	gende...
GSM17...	control	23247...	1.101...	GSM17...	whole...	femal...
GSM18...	control	23164...	1.117...	GSM18...	whole...	femal...
GSM18...	control	23523...	1.213...	GSM18...	whole...	femal...
GSM18...	control	23553...	1.177...	GSM18...	whole...	femal...
GSM18...	control	23114...	1.049...	GSM18...	whole...	femal...
GSM18...	control	23397...	1.266...	GSM18...	whole...	femal...
GSM18...	control	22724...	0.996...	GSM18...	whole...	femal...
GSM18...	control	23013...	1.051...	GSM18...	whole...	femal...
GSM18...	control	21367...	0.721...	GSM18...	whole...	femal...
GSM18...	control	20958...	0.595...	GSM18...	whole...	femal...
GSM18...	disease	23050...	1.120...	GSM18...	whole...	femal...
GSM18...	disease	22818...	0.917...	GSM18...	whole...	femal...
GSM18...	disease	21152...	0.763...	GSM18...	whole...	femal...
GSM18...	disease	22518...	0.957...	GSM18...	whole...	femal...
GSM18...	disease	22748...	1.142...	GSM18...	whole...	femal...
...	...	...	...	...	...	...

Figure 3为图 DEGs of GSE7451 概览。

(对应文件为 `Figure+Table/DEGs-of-GSE7451.pdf`)

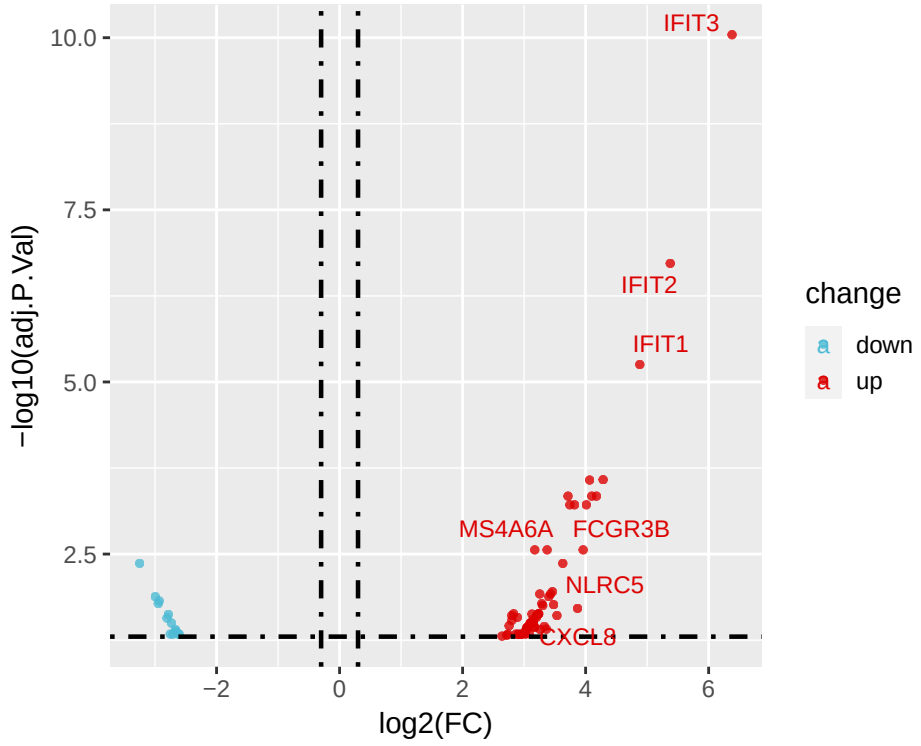

Figure 3: DEGs of GSE7451

Table 5为表格 tables of DEGs of GSE7451 概览。

(对应文件为 `Figure+Table/tables-of-DEGs-of-GSE7451.xlsx`)

> 注：表格共有 75 行 23 列，以下预览的表格可能省略部分数据；表格含有 75 个唯一‘rownames’。

Table 5: Tables of DEGs of GSE7451

rownames	hgnc_...	ID	GB_ACC	SPOT_ID	Speci...	Annot...	Seque.....8	Seque.....9	Targe...	Re
22945...	IFIT3	22945...	AI075407		Homo ...	Oct 6...	Conse...	GenBank	gb:AI...	AI
22675...	IFIT2	22675...	AA131041		Homo ...	Oct 6...	Conse...	GenBank	gb:AA...	AA
20315...	IFIT1	20315...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	NM
22670...	CMPK2	22670...	AI742057		Homo ...	Oct 6...	Conse...	GenBank	gb:AI...	AI
21445...	IFI44	21445...	NM_00...		Homo ...	Oct 6...	Conse...	GenBank	gb:NM...	NM
20566...	OASL	20566...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	NM
15654...	EGFR	15654...	AF277897		Homo ...	Oct 6...	Conse...	GenBank	gb:AF...	AF
22861...	XAF1	22861...	AA142842		Homo ...	Oct 6...	Conse...	GenBank	gb:AA...	AA
21899...	TMEM140	21899...	NM_01...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	NM
22760...	EPSTI1	22760...	AA633203		Homo ...	Oct 6...	Conse...	GenBank	gb:AA...	AA
24262...	RSAD2	24262...	AW189843		Homo ...	Oct 6...	Conse...	GenBank	gb:AW...	AW
15584...		15584...	AW974642		Homo ...	Oct 6...	Conse...	GenBank	gb:AW...	AW

rownames	hgnc_...	ID	GB_ACC	SPOT_ID	Speci...	Annot...	Seque.....8	Seque.....9	Targe...	Re
21966...	MS4A6A	21966...	NM_02...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	NM
20400...	FCGR3B	20400...	J04162		Homo ...	Oct 6...	Exemp...	GenBank	gb:J0...	J04
23839...		23839...	AW301504		Homo ...	Oct 6...	Conse...	GenBank	gb:AW...	AW
...	...	...	...	...	...	...	...	...	...	...

- saliva samples

7.2.2 GSE40611: Parotid gland tissues were harvested from 17 pSS and 14 non-pSS sicca patients and 18 controls.

- Parotid gland

Table 6为表格 metadata of used samples of GSE40611 概览。

(对应文件为 `Figure+Table/metadata-of-used-samples-of-GSE40611.csv`)

> 注：表格共有 35 行 9 列，以下预览的表格可能省略部分数据；表格含有 2 个唯一 'group'。

Table 6: Metadata of used samples of GSE40611

rownames	group	lib.size	norm....	sample	title	batch...	disea...	batch
GSM99...	control	78182...	1.949...	GSM99...	parot...	1	Control	1
GSM99...	control	65241...	1.158...	GSM99...	parot...	1	Control	1
GSM99...	control	60270...	0.969...	GSM99...	parot...	1	Control	1
GSM99...	control	71411...	1.592...	GSM99...	parot...	1	Control	1
GSM99...	control	64687...	1.171...	GSM99...	parot...	1	Control	1
GSM99...	control	57764...	0.998...	GSM99...	parot...	1	Control	1
GSM99...	control	77992...	1.919...	GSM99...	parot...	1	Control	1
GSM99...	control	61315...	1.050...	GSM99...	parot...	1	Control	1
GSM99...	control	62902...	1.120...	GSM99...	parot...	1	Control	1
GSM99...	control	44310...	0.841...	GSM99...	parot...	2	Control	2
GSM99...	control	47089...	0.891...	GSM99...	parot...	2	Control	2
GSM99...	control	48607...	0.937...	GSM99...	parot...	2	Control	2
GSM99...	control	49006...	0.958...	GSM99...	parot...	2	Control	2
GSM99...	control	41798...	0.790...	GSM99...	parot...	3	Control	3
GSM99...	control	48423...	0.829...	GSM99...	parot...	3	Control	3
...	...	...	...	...	...	...	...	...

Figure 4为图 DEGs of GSE40611 概览。

(对应文件为 `Figure+Table/DEGs-of-GSE40611.pdf`)

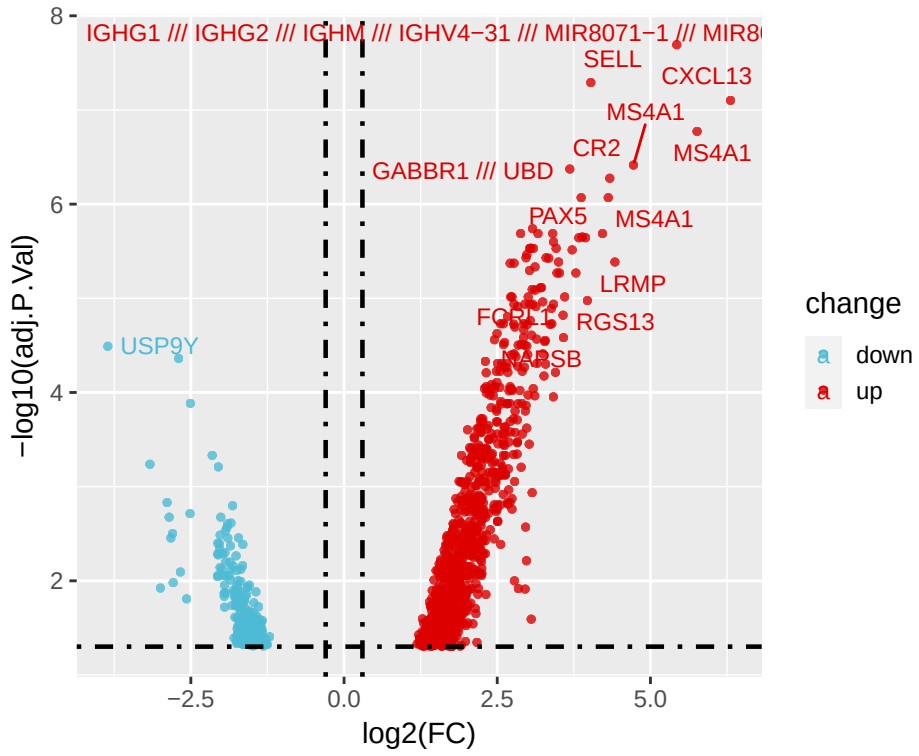

Figure 4: DEGs of GSE40611

Table 7为表格 tables of DEGs of GSE40611 概览。

(对应文件为 `Figure+Table/tables-of-DEGs-of-GSE40611.xlsx`)

> 注：表格共有 1161 行 23 列，以下预览的表格可能省略部分数据；表格含有 1161 个唯一 'rownames'。

Table 7: Tables of DEGs of GSE40611

rownames	hgnc_...	ID	GB_ACC	SPOT_ID	Speci...	Annot...	Seque.....8	Seque.....9	Targe...	R
21143...	IGHG1...	21143...	M87789		Homo ...	Oct 6...	Exemp...	GenBank	gb:M8...	M
20456...	SELL	20456...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	N
20524...	CXCL13	20524...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	N
22859...	MS4A1	22859...	AW474852		Homo ...	Oct 6...	Conse...	GenBank	gb:AW...	A
21035...	MS4A1	21035...	BC002807		Homo ...	Oct 6...	Exemp...	GenBank	gb:BC...	B
20589...	GABBR...	20589...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	N
20554...	CR2	20554...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	N
22196...	PAX5	22196...	BF510692		Homo ...	Oct 6...	Conse...	GenBank	gb:BF...	B
22859...	MS4A1	22859...	AI862674		Homo ...	Oct 6...	Conse...	GenBank	gb:AI...	A
22853...	SAMD9	22853...	AA741307		Homo ...	Oct 6...	Conse...	GenBank	gb:AA...	A
22660...	SAMD9L	22660...	BE966604		Homo ...	Oct 6...	Conse...	GenBank	gb:BE...	B
20329...	HLA-DQA1	20329...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	N

rownames	hgnc_...	ID	GB_ACC	SPOT_ID	Speci...	Annot...	Seque.....8	Seque.....9	Targe...	R
20423...	FLI1	20423...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	N
20411...	CD48	20411...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	N
20391...	CXCL9	20391...	NM_00...		Homo ...	Oct 6...	Exemp...	GenBank	gb:NM...	N
...	...	...	...	...	...	...	...	...	...	...

7.2.3 GSE154926: Total mRNA was extracted from minor salivary glands of 43 SS patients and 7 healthy volunteers.

- minor salivary glands

Table 8为表格 metadata of used samples of GSE154926 概览。

(对应文件为 `Figure+Table/metadata-of-used-samples-of-GSE154926.csv`)

> 注：表格共有 50 行 9 列，以下预览的表格可能省略部分数据；表格含有 2 个唯一 'group'。

Table 8: Metadata of used samples of GSE154926

rownames	group	lib.size	norm....	sample	age.ch1	diagn...	gende...	tissu...
BRA2	control	18452...	0.860...	BRA2	21	Healt...	Female	minor...
BRA3	control	35415...	1.221...	BRA3	59	Healt...	Female	minor...
BRA4	control	11889...	0.970...	BRA4	71	Healt...	Female	minor...
BRA31	control	15461...	0.758...	BRA31	24	Healt...	Female	minor...
BRA33	control	26419...	1.448...	BRA33	61	Healt...	Female	minor...
BRA36	control	18885...	0.976...	BRA36	14	Healt...	Female	minor...
BRA37	control	55874...	1.782...	BRA37	52	Healt...	Female	minor...
BRA41	disease	30095...	1.303...	BRA41	53	prima...	Female	minor...
BRA64	disease	14484...	0.902...	BRA64	55	prima...	Female	minor...
BRA11	disease	22380...	1.116...	BRA11	51	prima...	Female	minor...
BRA13	disease	21075...	1.134...	BRA13	51	prima...	Female	minor...
BRA14	disease	22754...	1.497...	BRA14	48	prima...	Female	minor...
BRA15	disease	16689...	1.227...	BRA15	58	prima...	Female	minor...
BRA16	disease	55177...	0.367...	BRA16	65	prima...	Female	minor...
BRA18	disease	13631...	0.815...	BRA18	69	prima...	Female	minor...
...	...	...	...	...	...	...	...	...

Figure 5为图 DEGs of GSE154926 概览。

(对应文件为 `Figure+Table/DEGs-of-GSE154926.pdf`)

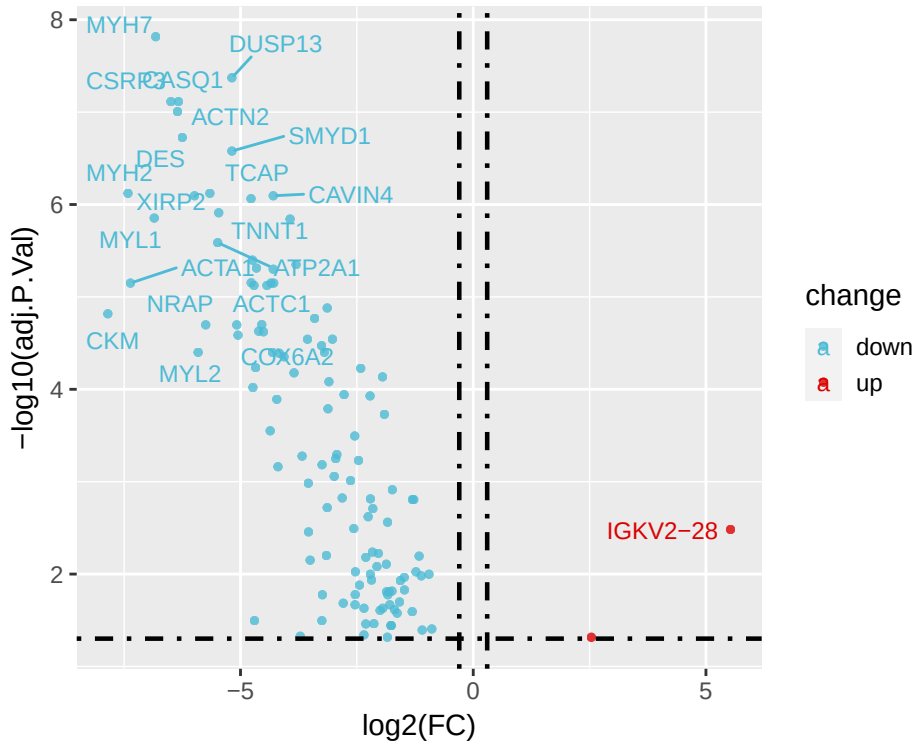

Figure 5: DEGs of GSE154926

Table 9为表格 tables of DEGs of GSE154926 概览。

(对应文件为 `Figure+Table/tables-of-DEGs-of-GSE154926.xlsx`)

> 注：表格共有 123 行 14 列，以下预览的表格可能省略部分数据；表格含有 123 个唯一‘ensembl_gene_id’。

Table 9: Tables of DEGs of GSE154926

ensem…	hgnc_…	entre…	refse…	chrom…	start…	end_p…	descr…	logFC	AveExpr	t	P.Va
ENSG0…	MYH7	4625	NM_00…	14	23412740	23435660	myosi…	-6.82…	-2.41…	-9.37…	9.110
ENSG0…	DUSP13	51207	NM_01…	10	75094432	75109221	dual …	-5.18…	-3.45…	-8.88…	5.071
ENSG0…	CASQ1	844	NM_00…	1	16019…	16020…	calse…	-6.33…	-1.73…	-8.57…	1.549
ENSG0…	CSRP3	8048		11	19182030	19210571	cyste…	-6.49…	-1.64…	-8.53…	1.838
ENSG0…	ACTN2	88		1	23666…	23676…	actin…	-6.35…	-1.67…	-8.40…	2.948
ENSG0…	DES	1674	NM_00…	2	21941…	21942…	desmi…	-6.25…	-1.35…	-8.17…	6.739
ENSG0…	SMYD1	150572	NM_19…	2	88067825	88113384	SET a…	-5.18…	-3.00…	-8.03…	1.102
ENSG0…	MYH2	4620		17	10521148	10549700	myosi…	-7.41…	-0.01…	-7.68…	3.967
ENSG0…	TCAP	8557	NM_00…	17	39665349	39666554	titin…	-5.65…	-2.06…	-7.67…	4.063
ENSG0…	XIRP2	129446	NM_00…	2	16688…	16725…	xin a…	-5.98…	-2.27…	-7.61…	5.165
ENSG0…	NEB	4703	NM_00…	2	15148…	15173…	nebul…	-4.77…	1.733…	-7.56…	6.197
ENSG0…	CAVIN4	347273	NM_00…	9	10057…	10058…	caveo…	-4.29…	-2.27…	-7.60…	5.282

ensem…	hgnc_…	entre…	refse…	chrom…	start…	end_p…	descr…	logFC	AveExpr	t	P.Va
ENSG0…	TNNT1	7138	NM_00…	19	55132698	55149206	tropo…	-5.46…	-0.98…	-7.44…	9.538
ENSG0…	MYL1	4632	NM_07…	2	21029…	21031…	myosi…	-6.85…	-0.75…	-7.39…	1.171
ENSG0…	TNNI2	7136	NM_00…	11	1838981	1841680	tropo…	-3.93…	0.268…	-7.36…	1.285
…	…	…	…	…	…	…	…	…	…	…	…

7.2.4 GSE135635: RNA-sequencing in primary circulating plasmacytoid dendritic cells from patients with pSS, nSS, and HC. Two cohorts of n=31 each are included (discovery and replication), no duplicates samples

- plasmacytoid dendritic cells

Table 10为表格 metadata of used samples of GSE135635 概览。

(对应文件为 `Figure+Table/metadata-of-used-samples-of-GSE135635.csv`)

注：表格共有 22 行 5 列，以下预览的表格可能省略部分数据；表格含有 2 个唯一 'group'。

Table 10: Metadata of used samples of GSE135635

rownames	group	lib.size	norm….	sample
Disc.HC1	control	56201…	0.986…	Disc.HC1
Disc.HC2	control	54656…	0.984…	Disc.HC2
Disc.HC3	control	55765…	0.959…	Disc.HC3
Disc.HC4	control	59405…	1.037…	Disc.HC4
Disc.HC5	control	55793…	0.957…	Disc.HC5
Disc.HC6	control	57688…	0.997…	Disc.HC6
Disc.HC7	control	55350…	0.961…	Disc.HC7
Disc.HC8	control	56148…	0.995…	Disc.HC8
Disc….	disease	56631…	1.016…	Disc….
Disc….	disease	59579…	1.007…	Disc….
Disc….	disease	59215…	1.038…	Disc….
Disc….	disease	58367…	1.033…	Disc….
Disc….	disease	56710…	1.002…	Disc….
Disc….	disease	58039…	1.024…	Disc….
Disc….	disease	56652…	1.008…	Disc….
…	…	…	…	…

Figure 6为图 DEGs of GSE135635 概览。

(对应文件为 `Figure+Table/DEGs-of-GSE135635.pdf`)

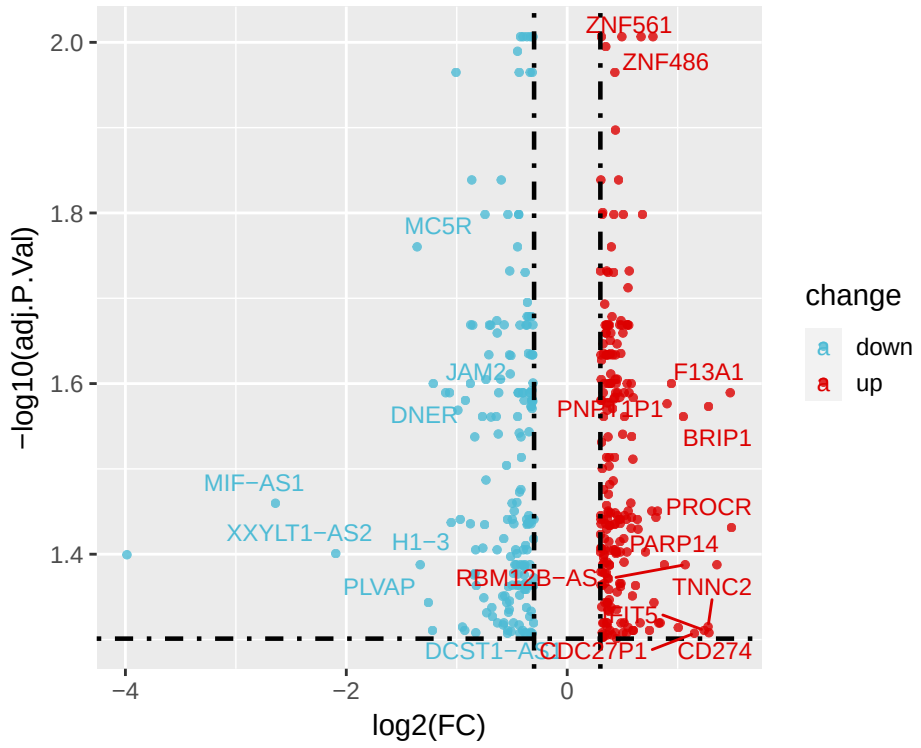

Figure 6: DEGs of GSE135635

Table 11为表格 tables of DEGs of GSE135635 概览。

(对应文件为 `Figure+Table/tables-of-DEGs-of-GSE135635.xlsx`)

> 注：表格共有 394 行 14 列，以下预览的表格可能省略部分数据；表格含有 394 个唯一‘ensembl_gene_id’。

Table 11: Tables of DEGs of GSE135635

ensem...	hgnc_...	entre...	refse...	chrom...	start...	end_p...	descr...	logFC	AveExpr	t	P.Value	...
ENSG0...	ZNF561	93134		19	96046809	96212360	zinc ...	0.668...	4.194...	6.524...	1.120...	...
ENSG0...	TCF3	6929		19	16092911	16526150	trans...	-0.36...	7.500...	-6.29...	1.935...	...
ENSG0...	UBE4A	9354	NM_001...	1	11835...	11839...	ubiqu...	0.309...	5.755...	6.074...	3.266...	...
ENSG0...	ATP7A	538		X	77910697	78050395	ATPas...	0.494...	3.524...	6.094...	3.112...	...
ENSG0...	TMIGD1	126259	NM_001...	9	42922274	43024310	trans...	-0.39...	5.504...	-5.93...	4.615...	...
ENSG0...	TRAF4	9618	NM_001...	17	28744012	28750956	TNF r...	-0.42...	8.484...	-5.88...	5.132...	...
ENSG0...	FAM3A	60343	NM_001...	X	15450...	15451...	FAM3 ...	-0.30...	4.948...	-5.87...	5.324...	...

ensem...	hgnc_...	entre...	refse...	chrom...	start...	end_p...	descr...	logFC	AveExpr	t	P.Value	...
ENSG0...	RELT	84957	NM_152...	11	73376397	73397474	RELT ...	-0.33...	6.709...	-5.83...	5.780...	...
ENSG0...	NUP58	9818		13	25301522	25365396	nucle...	0.349...	5.040...	5.791...	6.476...	...
ENSG0...	IRF2BP1	54207	NM_022...	14	77024543	77028708	inter...	-0.44...	6.989...	-5.73...	7.496...	...
ENSG0...	ZNF512B	57473	NM_022...	20	63956704	63969930	zinc ...	-0.33...	5.529...	-5.66...	8.722...	...
ENSG0...	ZNF486	90649	NM_052...	19	20167212	20200488	zinc ...	0.776...	1.344...	6.171...	2.586...	...
ENSG0...	EPS8L2	64787		11	694438	727727	EPS8 ...	-1.00...	6.161...	-5.61...	9.891...	...
ENSG0...	CSNK1E	1454	NM_152...	22	38290691	38318084	casei...	-0.31...	7.149...	-5.58...	1.082...	...
ENSG0...	CORO1A	NA		16	30183505	30184957	CORO1...	-0.43...	3.254...	-5.61...	9.851...	...
...	...	...	...	...	...	...	...	...	...	...	...	...

7.2.5 Gather

Figure 7为图 all DEGs of GSE datasets 概览。

(对应文件为 `Figure+Table/all-DEGs-of-GSE-datasets.pdf`)

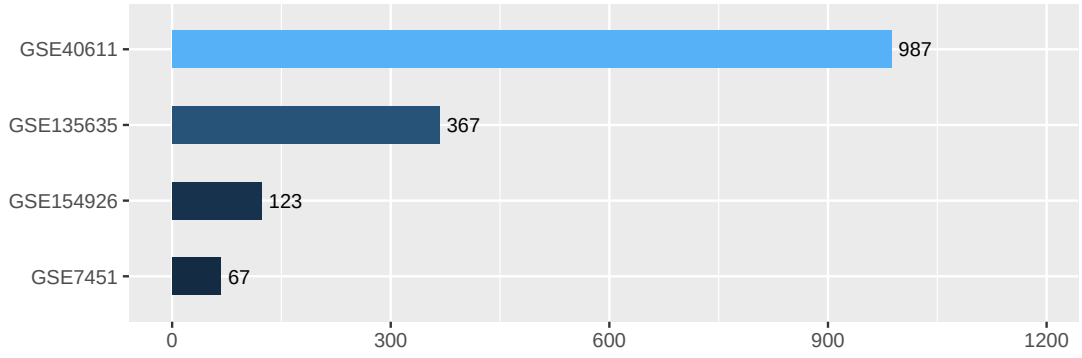

Figure 7: All DEGs of GSE datasets

7.3 PPI STRINGdb

Figure 8为图 intersection of SS DEGs with XMGJ targets 概览。

(对应文件为 `Figure+Table/intersection-of-SS-DEGs-with-XMGJ-targets.pdf`)

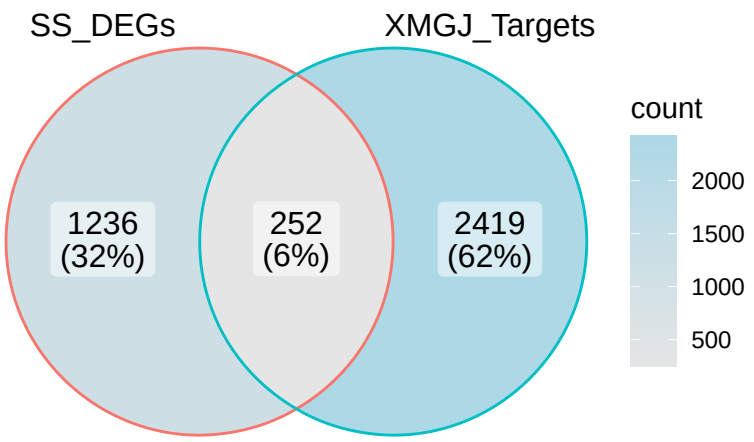

Figure 8: Intersection of SS DEGs with XMGJ targets

Figure 9为图 PPI networks 概览。

(对应文件为 `Figure+Table/PPI-networks.pdf`)

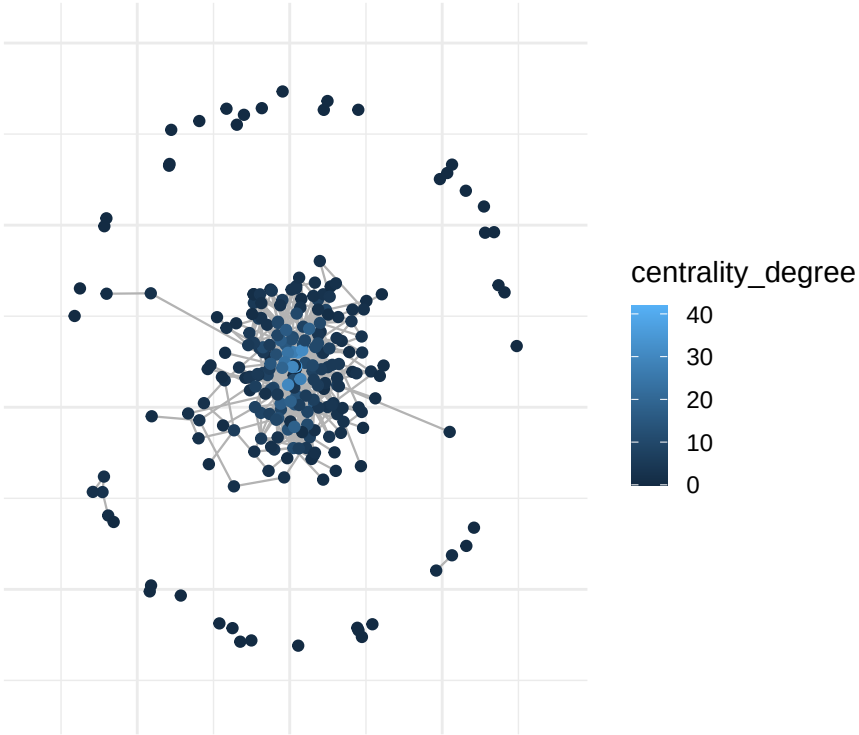

Figure 9: PPI networks

Figure 10为图 MCC top30 概览。

(对应文件为 `Figure+Table/MCC-top30.pdf`)

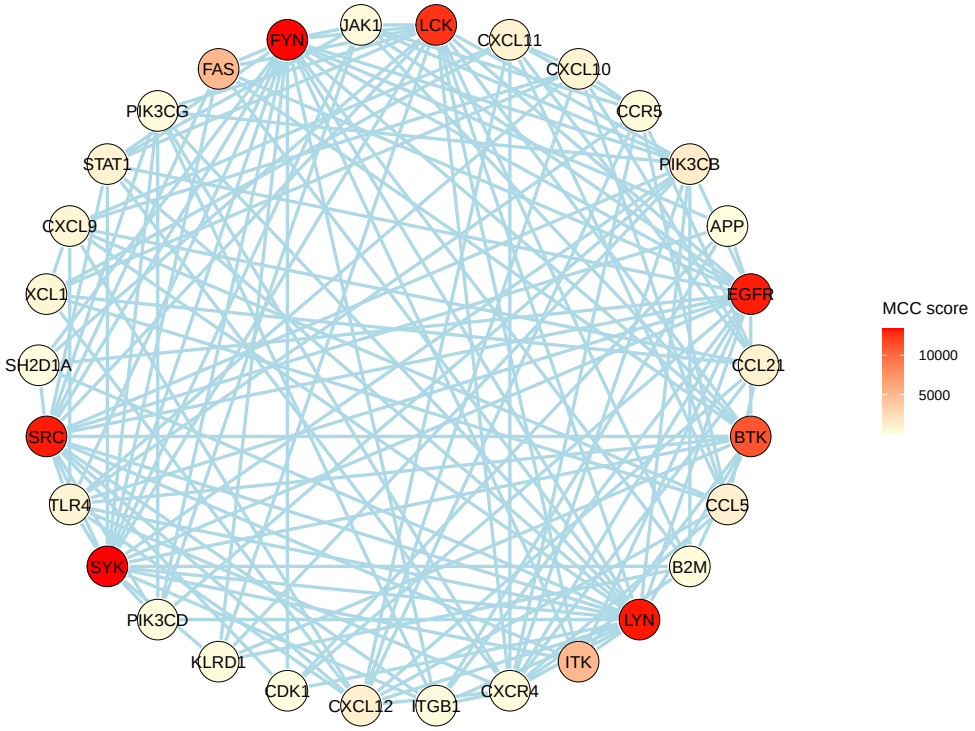

Figure 10: MCC top30

7.4 富集分析

Figure 11为图 KEGG Enrichment 概览。

(对应文件为 `Figure+Table/KEGG-Enrichment.pdf`)

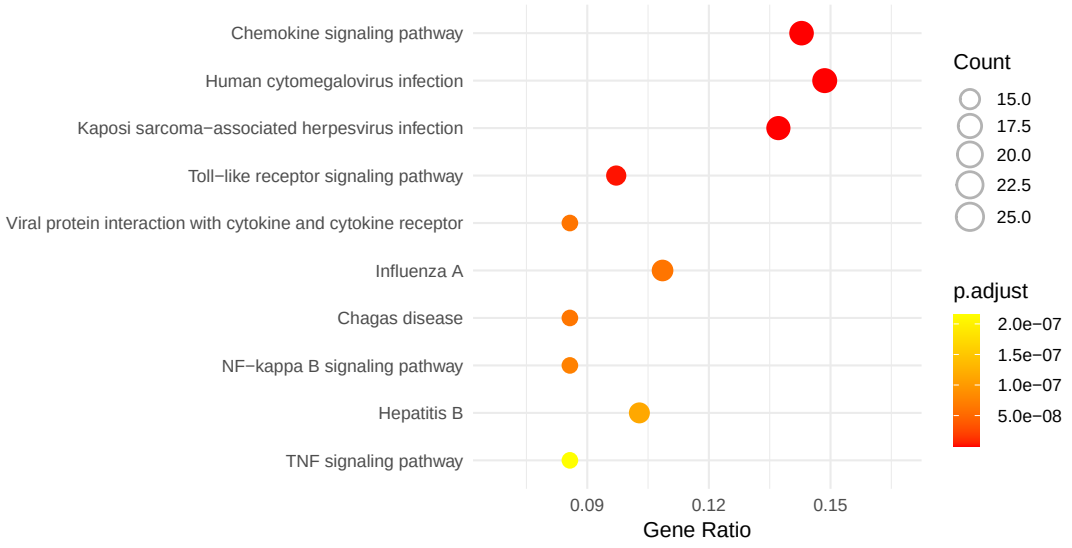

Figure 11: KEGG Enrichment

Table 12为表格 tables of KEGG Enrichment 概览。

(对应文件为 `Figure+Table/tables-of-KEGG-Enrichment.xlsx`)

注：表格共有 264 行 9 列，以下预览的表格可能省略部分数据；表格含有 264 个唯一 'ID'。

Table 12: Tables of KEGG Enrichment

ID	Descr...	GeneR...	BgRatio	pvalue	p.adjust	qvalue	geneID	Count
hsa04062	Chemo...	25/175	192/8622	7.337...	1.937...	1.042...	5291/...	25
hsa05163	Human...	26/175	225/8622	3.907...	5.158...	2.776...	355/5...	26
hsa05167	Kapos...	24/175	194/8622	7.590...	6.679...	3.595...	355/5...	24
hsa04620	Toll-...	17/175	108/8622	4.281...	2.825...	1.521...	5291/...	17
hsa04061	Viral...	15/175	100/8622	1.265...	6.187...	3.330...	6387/...	15
hsa05164	Influ...	19/175	171/8622	1.406...	6.187...	3.330...	355/5...	19
hsa05142	Chaga...	15/175	102/8622	1.682...	6.345...	3.415...	355/5...	15
hsa04064	NF-ka...	15/175	104/8622	2.221...	7.330...	3.946...	695/3...	15
hsa05161	Hepat...	18/175	162/8622	3.913...	1.147...	6.178...	355/5...	18
hsa04668	TNF s...	15/175	114/8622	8.135...	2.147...	1.156...	330/3...	15
hsa05170	Human...	20/175	212/8622	9.000...	2.160...	1.162...	355/5...	20
hsa05417	Lipid...	20/175	215/8622	1.146...	2.521...	1.357...	355/5...	20
hsa05146	Amoeb...	14/175	102/8622	1.503...	3.053...	1.643...	5291/...	14
hsa04625	C-typ...	14/175	104/8622	1.941...	3.660...	1.970...	5291/...	14
hsa05169	Epste...	19/175	202/8622	2.280...	4.012...	2.160...	695/3...	19
...	...	...	...	...	...	...	...	...

Figure 12为图 GO enrichment 概览。

(对应文件为 `Figure+Table/GO-enrichment.pdf`)

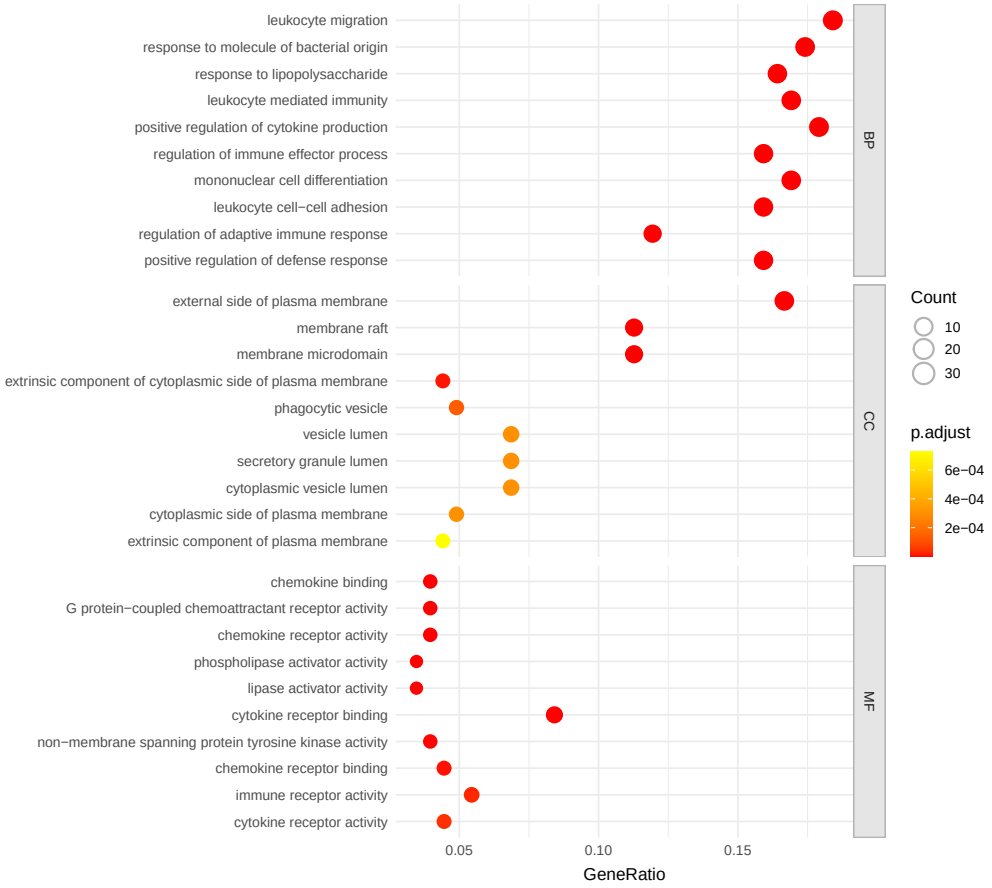

Figure 12: GO enrichment

'Tables of GO enrichment' 数据已全部提供。

(对应文件为 `Figure+Table/Tables-of-GO-enrichment`)

> 注：文件夹 Figure+Table/Tables-of-GO-enrichment 共包含 3 个文件。
>
> 1. 1_BP.csv
> 2. 2_CC.csv
> 3. 3_MF.csv

Figure 13为图 The hitted genes in pathway of Chemokine signaling 概览。

(对应文件为 `Figure+Table/hsa04062.pathview.png`)

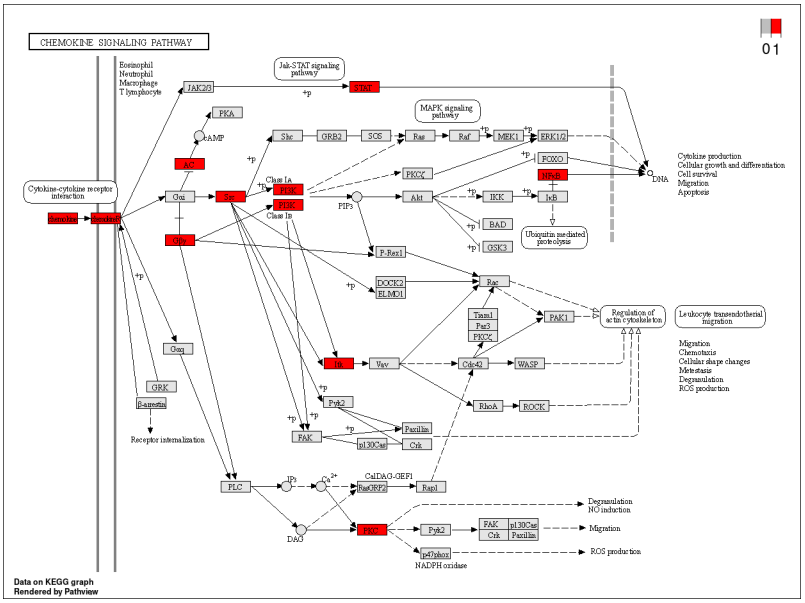

Figure 13: The hitted genes in pathway of Chemokine signaling

The Cellular Component (CC), the Molecular Function (MF) and the Biological Process (BP).

7.5 MCC top30 和 Chemokine signaling pathway

Figure 14为图 intersection of MCC top30 and the hitted genes ofChemokine pathway 概览。

(对应文件为 `Figure+Table/intersection-of-MCC-top30-and-the-hitted-genes-ofChemokine-pathway.pdf`)

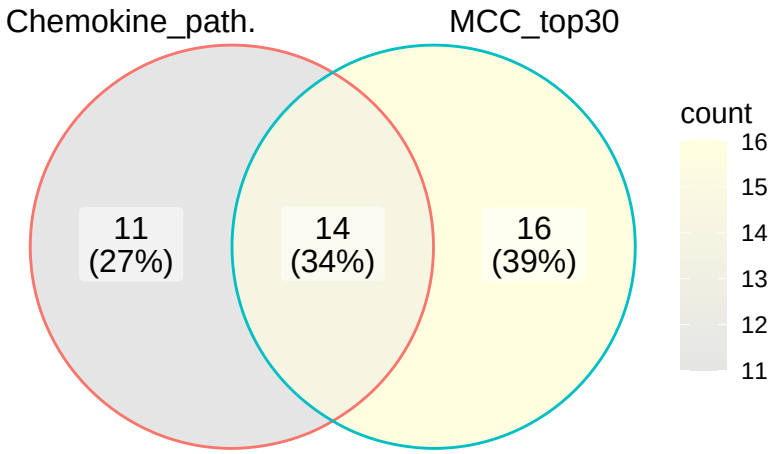

Figure 14: Intersection of MCC top30 and the hitted genes ofChemokine pathway

Intersection :

PIK3CB, PIK3CG, CXCL12, ITK, STAT1, CXCR4, CXCL9, XCL1, CCR5, CXCL10, PIK3CD, SRC, LYN, CCL5

7.6 Xuanmai Ganju 靶向 Chemokine signaling pathway 治疗 Sjogren syndrome 的成分

Table 13为表格 tables of components of XMGJ targeting Chemoking signaling for treating SS 概览。

(对应文件为 `Figure+Table/tables-of-components-of-XMGJ-targeting-Chemoking-signaling-for-treating-SS.xlsx`)

> 注：表格共有 121 行 9 列，以下预览的表格可能省略部分数据；表格含有 32 个唯一 'Ingredient.name'。

Table 13: Tables of components of XMGJ targeting Chemoking signaling for treating SS

Ingre……1	Herb_…	Ingre……3	Ingre……4	Targe……5	Targe……6	Datab…	Paper.id	…
HBIN0…	GAN CAO	18bet…	AJ-72…	HBTAR…	SRC	NA	NA	…
HBIN0…	TIAN …	acena…	1Z25C…	HBTAR…	CXCL8	NA	NA	…
HBIN0…	HUANG…	aceti…	AI3-0…	HBTAR…	SRC	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CCR1	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CCR5	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CCR6	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CCR7	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CXCL8	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CXCR2	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CXCL10	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CXCL9	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CXCL12	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CXCR4	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	CXCR6	NA	NA	…
HBIN0…	JIE GENG	adeni…	NA	HBTAR…	GNG2	NA	NA	…
…	…	…	…	…	…	…	…	…

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