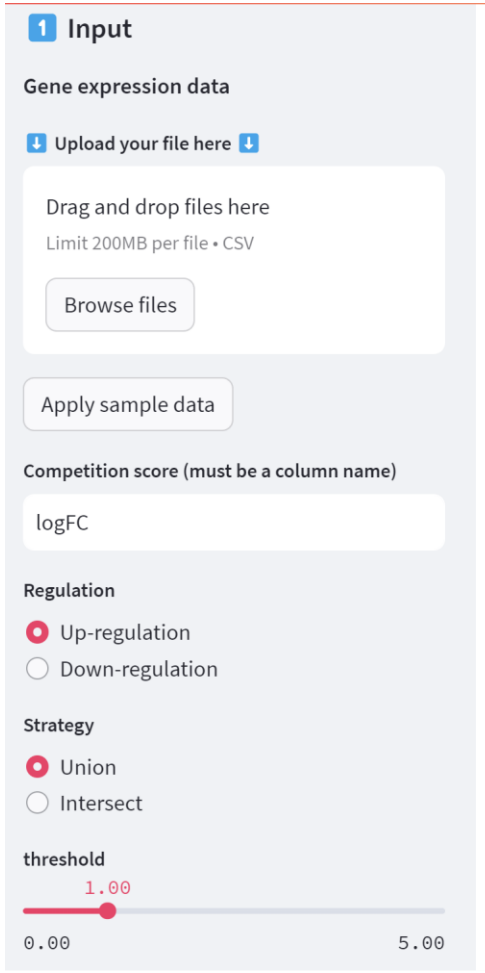
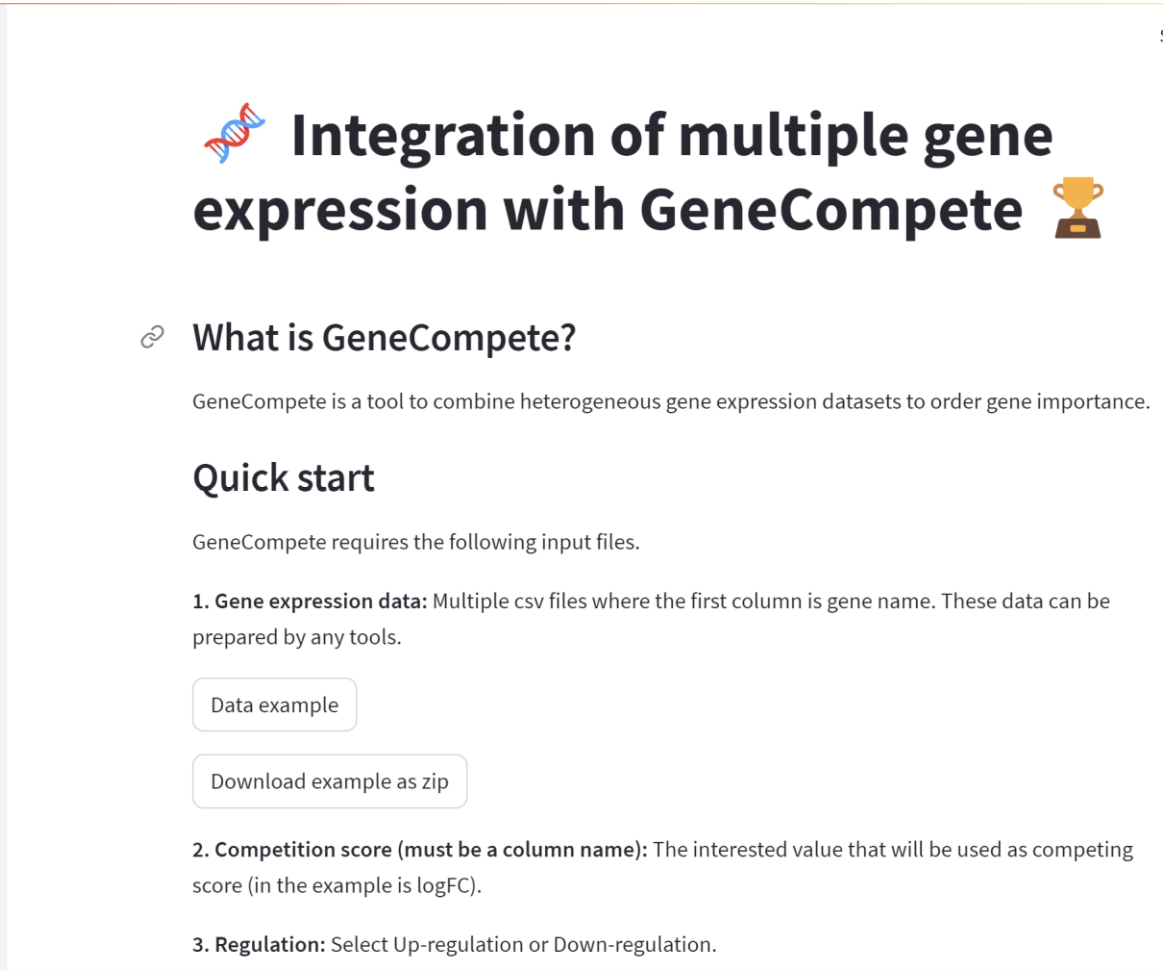
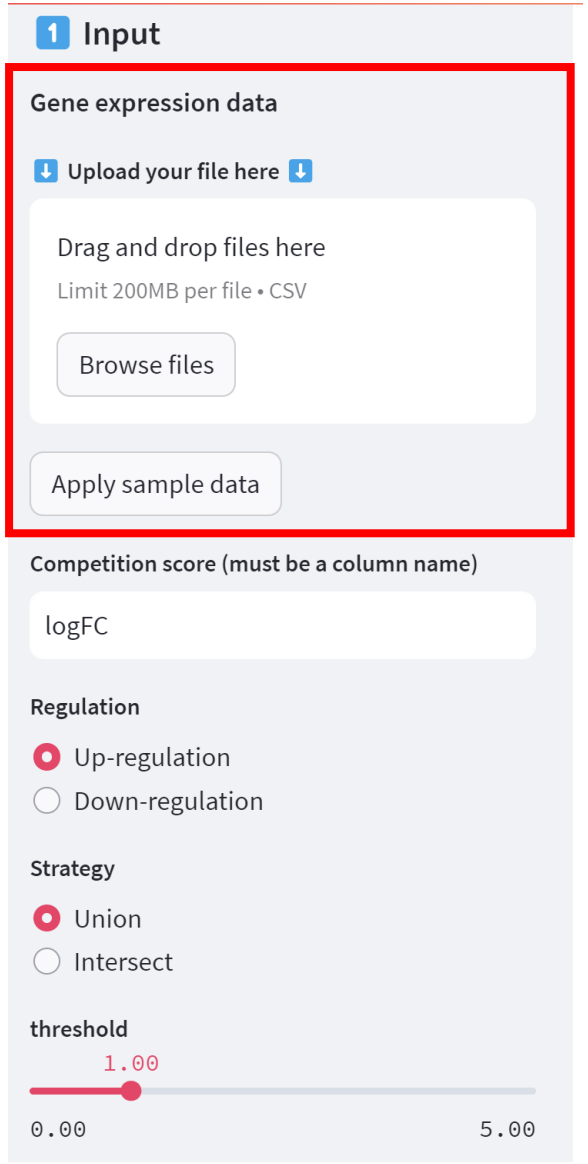
Guide to Applying GeneCompete in 3 Simple Steps





1. Understanding Required Input



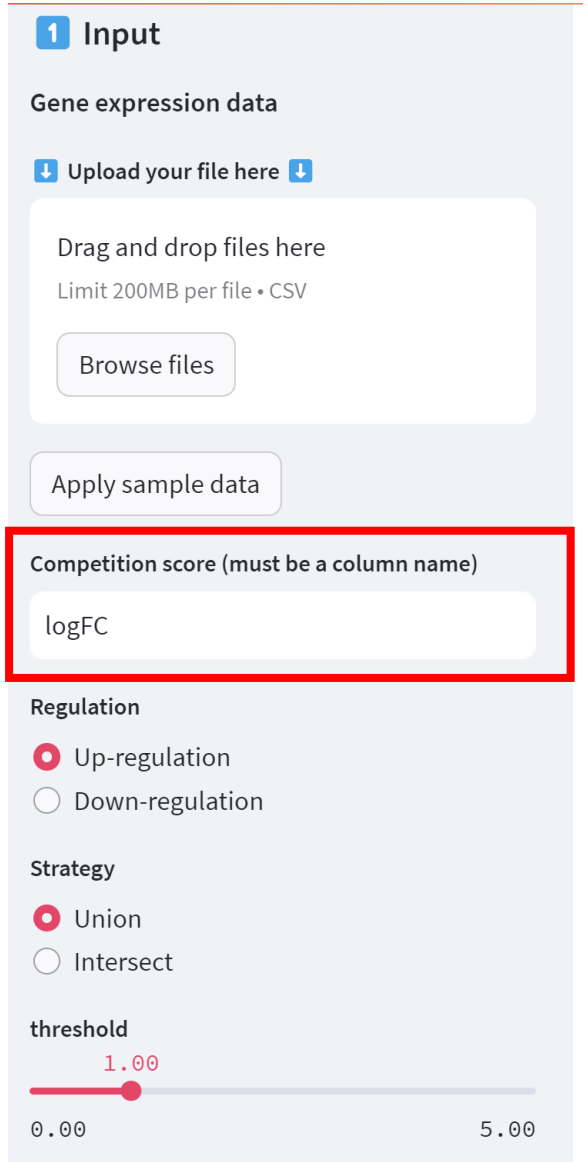
1. Gene expression data

The user can choose to upload multiple CSV files or click apply sample data.

First column must contain your interest entity

	adj.P.Val	P.Value	t	B	logFC
TUBA3E	1.2e-42	3.1e-47	-21.4861	96.6406	-2.173
CEBPD	9.6e-42	5.1e-46	-20.9529	93.9039	-2.308
TUBA3C	1.1e-41	8.8e-46	-20.8493	93.3679	-2.0374
ZFP36	1.8e-41	1.9e-45	-20.7065	92.6265	-2.2395
RASD1	1.9e-41	2.4e-45	-20.6562	92.3648	-3.5143
TUBA3D	1.6e-40	2.6e-44	-20.2148	90.0531	-2.2049
CDC42EP4	8.6e-40	1.6e-43	-19.8769	88.2667	-1.2133
SERPINA3	1.8e-38	3.7e-42	-19.2995	85.179	-3.5614
AXUD1	1.6e-37	3.8e-41	-18.8782	82.8985	-2.1045
S100A9	8.2e-37	2.2e-40	-18.5621	81.173	-2.9145

1. Understanding Required Input



2. Competition score

The interested value that will be used as competing score (in the example is logFC).

	adj.P.Val	P.Value	t	B	logFC
TUBA3E	1.2e-42	3.1e-47	-21.4861	96.6406	-2.173
CEBPD	9.6e-42	5.1e-46	-20.9529	93.9039	-2.308
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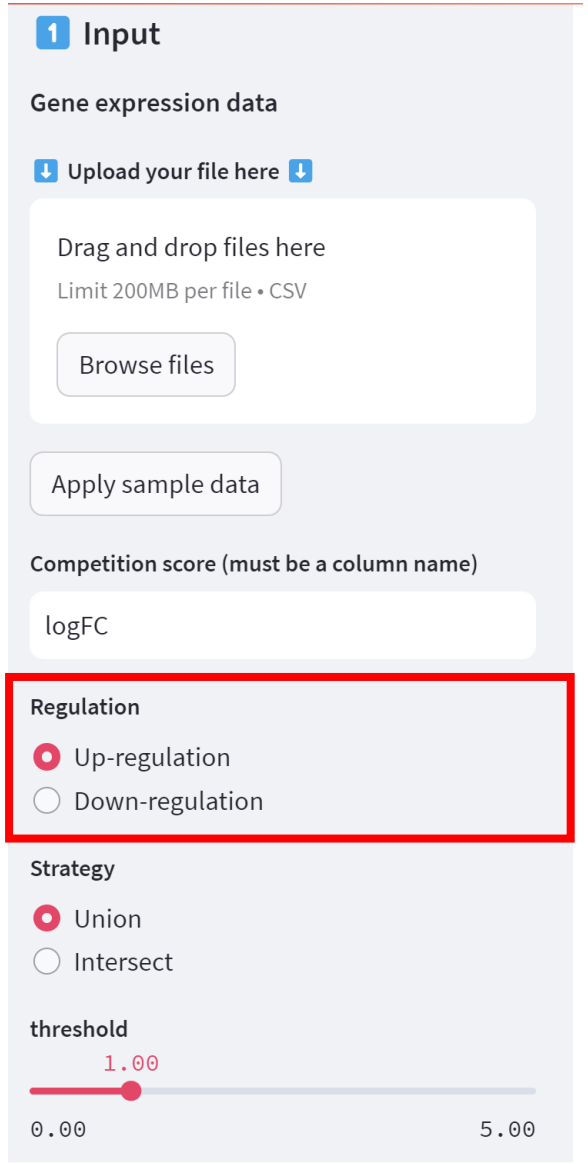
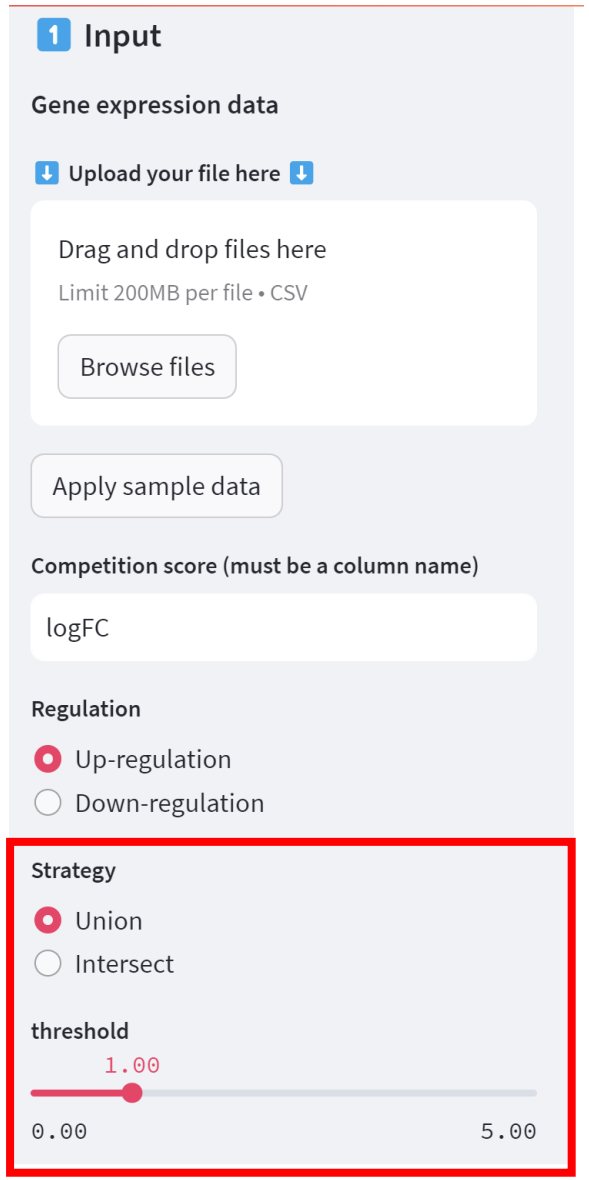
1. Understanding Required Input



3. Regulation

- Up-regulation: The entity with higher score is the winner.
- Down-regulation: The entity with higher score is the winner.

1. Understanding Required Input



4. Strategy

- Union consider all entities from all datasets as players.
- Intersect focus only the overlapped entities.

For more information: https://peerj.com/articles/cs-1686/

5. Threshold

If the union strategy is selected, the number of entity can be large and consume computational time. Before ranking, datasets are filtered with **Competition score > (threshold)** in case of **up-regulation** and **Competition score < -(threshold)** for **down-regulation.**

2. Review your input and total number of entity

** We suggest a number of entities lower than 10000. **

2 Preparing Input:

Preview uploaded data

Total number of file uploaded: 4

Total number of genes in dataset 1 is 14019

Total number of genes in dataset 2 is 8101

Total number of genes in dataset 3 is 13580

Total number of genes in dataset 4 is 11696

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Number of genes:	Strategy:	Regulation:	logFC threshold:
871	Union	UP	1.0

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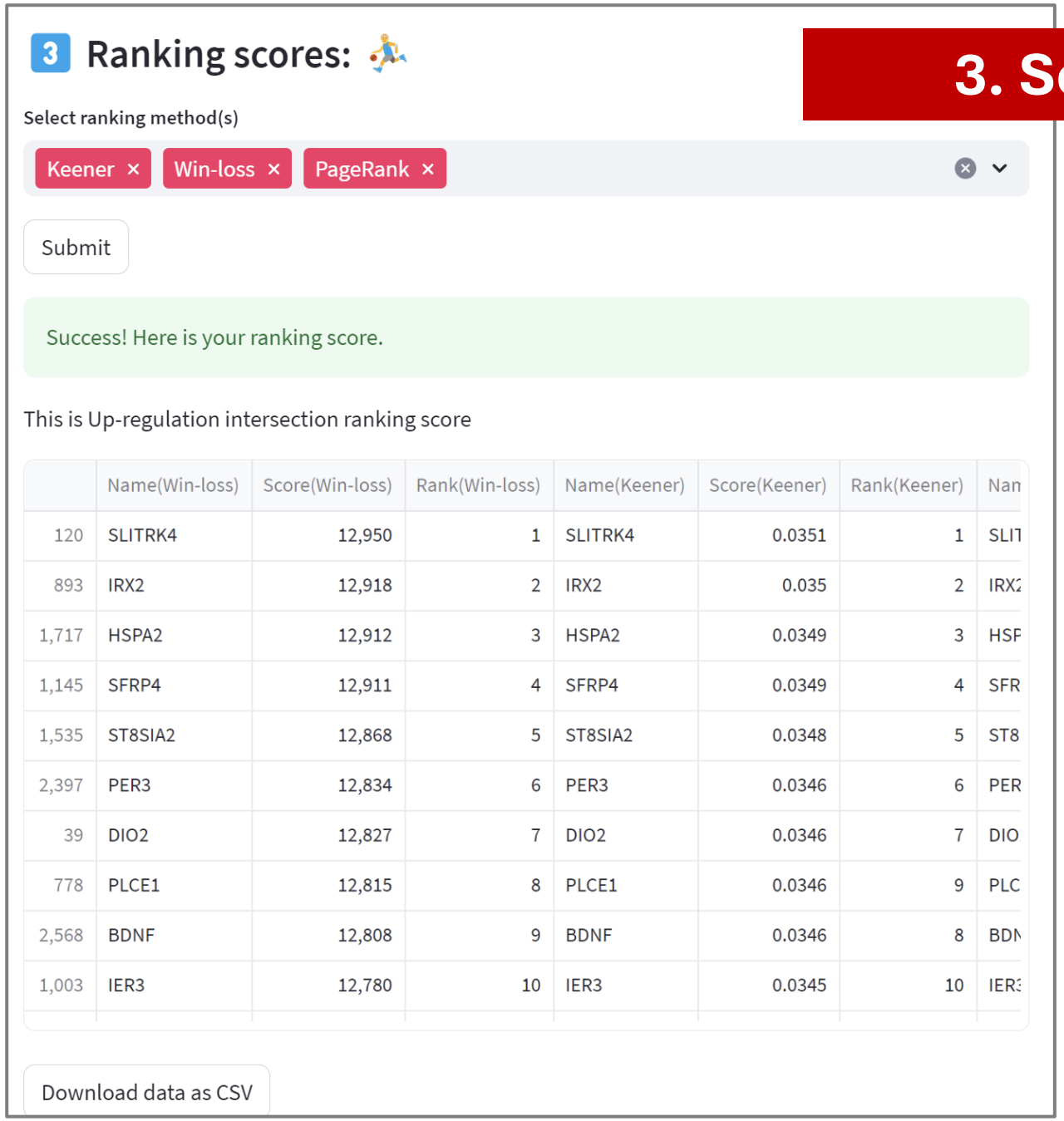

	Name(Win-loss)	Score(Win-loss)	Rank(Win-loss)	Name(Keener)	Score(Keener)	Rank(Keener)	Nan
120	SLITRK4	12,950	1	SLITRK4	0.0351	1	SLIT
893	IRX2	12,918	2	IRX2	0.035	2	IRX2
1,717	HSPA2	12,912	3	HSPA2	0.0349	3	HSF
1,145	SFRP4	12,911	4	SFRP4	0.0349	4	SFR
1,535	ST8SIA2	12,868	5	ST8SIA2	0.0348	5	ST8
2,397	PER3	12,834	6	PER3	0.0346	6	PER
39	DIO2	12,827	7	DIO2	0.0346	7	DIO
778	PLCE1	12,815	8	PLCE1	0.0346	9	PLC
2,568	BDNF	12,808	9	BDNF	0.0346	8	BDN
1,003	IER3	12,780	10	IER3	0.0345	10	IER3

3. Select ranking method(s)

You can select one or several ranking methods below:

- **Win-loss**
- **Massey**
- **Colley**
- **Keener**
- **Elo**
- **Markov**
- **PageRank**
- **Bi-PageRank**

The result table can be downloaded as CSV.

Thank you for visiting.