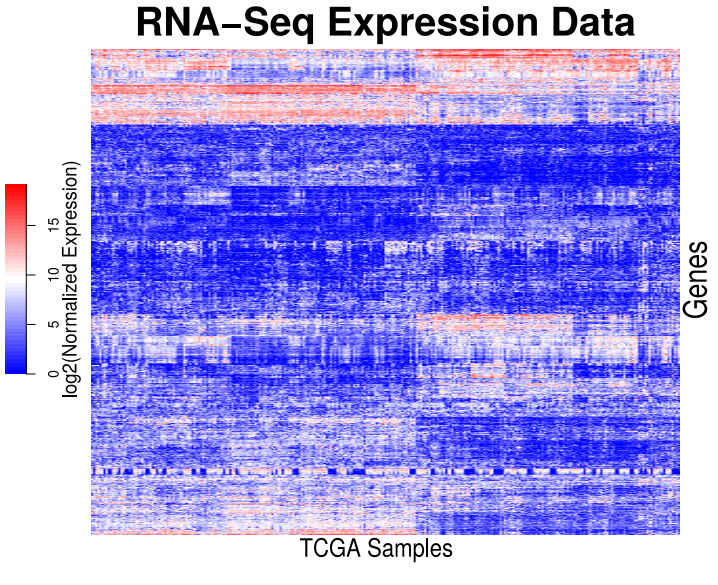
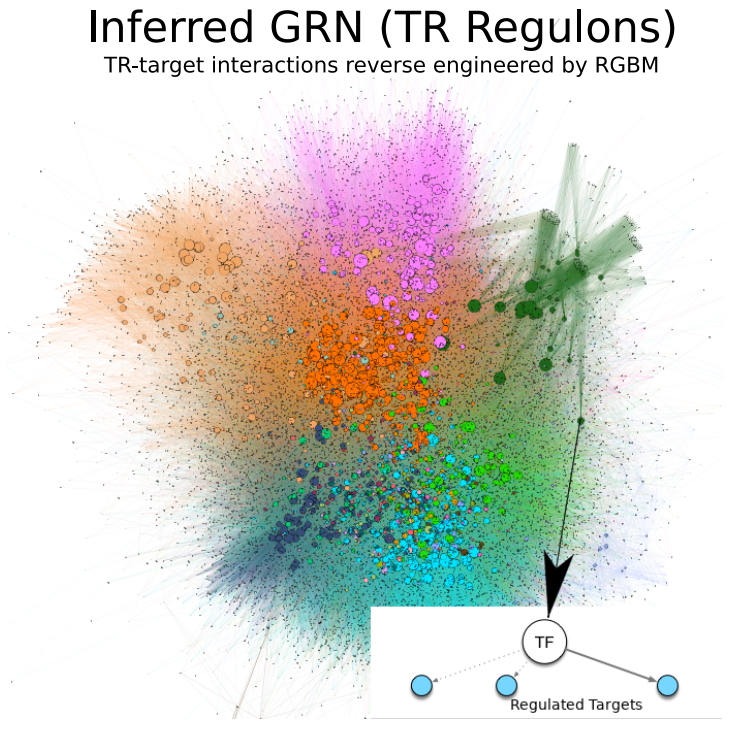
A



B



C

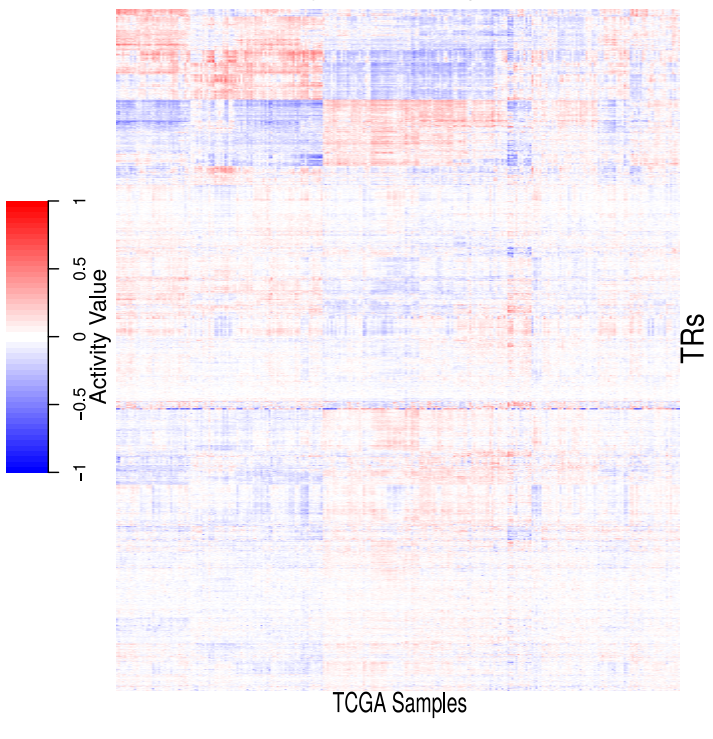
GRN	Target1	Target2	Target3	Target4	Target5	....
TR1	0.5	1	0.5	0	0	
TR2	0	0	0	0	0.1	
TR3	0	0	0.4	1	0	
TR4	0	0	0	0	0	
.						
.						

Correlation Matrix	Target1	Target2	Target3	Target4	Target5	....
TR1	-0.8	0.5	0.04	0.7	-0.4	
TR2	-0.1	0.2	0.2	-0.7	1	
TR3	0.95	0.94	0.4	-0.1	-0.5	
TR4	0.01	0.1	0.5	0.5	0.4	
.						
.						

Regulons:
TR1 Target1, Target2, Target3
TR2 Target5
TR3 Target3, Target4
TR4 None

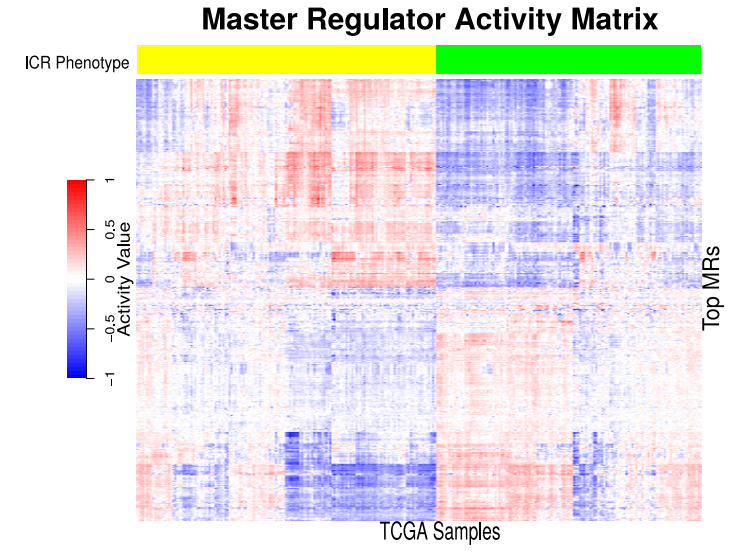
Red: Positive
Green: Negative

D



E

TR Regulon	Gene ranks	NES	pval	padj
CD4		2.98	1.2e−06	2.3e−05
SPHK1		2.06	1.2e−06	2.3e−05
FGFR1		1.73	1.2e−06	2.3e−05
ZEB2		2.42	1.2e−06	2.3e−05
CAVIN1		2.27	1.2e−06	2.3e−05
PRRX1		2.52	1.2e−06	2.3e−05
IL1RAP		1.78	1.2e−06	2.3e−05
DDR2		2.51	1.2e−06	2.3e−05
ICAM1		2.16	1.2e−06	2.3e−05
TGFB3		2.40	1.2e−06	2.3e−05
MEF2C		2.03	1.2e−06	2.3e−05
ITGB2		3.13	1.2e−06	2.3e−05
ZEB1		1.84	1.2e−06	2.3e−05
FBN1		2.72	1.2e−06	2.3e−05
BNC2		2.53	1.2e−06	2.3e−05
GLI4		−2.14	3.1e−06	3.9e−05
HOXB5		−2.12	3.1e−06	3.9e−05
POU3F1		−2.11	3.1e−06	3.9e−05
NPAS2		−2.07	3.1e−06	3.9e−05
HSF4		−2.04	3.0e−06	3.9e−05
L3MBTL1		−2.31	3.0e−06	3.9e−05
CHP2		−2.50	3.0e−06	3.9e−05
ZNF44		−2.10	3.0e−06	3.9e−05
PRKN		−2.04	2.9e−06	3.9e−05
GATA2		−2.06	2.9e−06	3.9e−05
ZNF682		−2.15	2.8e−06	3.8e−05
ZNF704		−2.10	2.8e−06	3.8e−05
MAPK10		−2.10	2.8e−06	3.8e−05
TLE6		−2.09	2.6e−06	3.7e−05
ERBB4		−2.11	2.5e−06	3.5e−05

0 5000 10000 15000 20000

F