

Top 1000 gene pairs analysis for scRNA-seq SDREM model with protein phosphorylation data integrated

A

	0	1	2	3	4	5	6
0.01	0.523602	1.99E-06	0.02703	1	1	1	1
0.05	0.523602	2.50E-06	5.17E-05	0.342316	1	1	1
0.1	0.523602	2.77E-05	4.84E-09	0.002397	0.032196	0.033228	1
0.15	0.523602	0.001292	8.95E-09	2.50E-06	0.047471	0.116503	1
0.2	0.523602	0.003989	2.34E-10	1.02E-06	0.019243	0.247364	1
0.25	0.523602	0.004596	4.50E-11	2.67E-09	0.012452	0.096478	1
0.3	0.523602	0.016461	7.61E-09	7.47E-07	0.002029	0.014349	0.018781

B

	0	1	2	3	4	5	6
0.01	143	28	2	0	0	0	0
0.05	143	73	14	1	0	0	0
0.1	143	96	34	7	2	1	0
0.15	143	101	45	16	3	1	0
0.2	143	109	59	21	5	1	0
0.25	143	116	71	30	7	2	0
0.3	143	116	74	29	10	4	2

C

gene_symbol	hypertension	COPD	diabetes	smoke	cancer	sex	age	sum
nr3c1	-1	-1	-1	-1	-1	0	0	-5
cd81	0	-1	-1	-1	-1	-1	0	-5
cav1	-1	-1	-1	-1	-1	1	0	-4
fas	-1	0	-1	0	-1	-1	0	-4
jun	-1	1	-1	-1	-1	-1	0	-4
hspa8	-1	-1	0	0	0	-1	0	-3
hax1	-1	-1	0	-1	1	-1	0	-3
erbb2	1	-1	0	-1	-1	0	-1	-3
srf	-1	1	-1	-1	-1	0	0	-3
fos	-1	0	1	-1	-1	0	-1	-3
acat1	0	-1	-1	-1	0	-1	1	-3
apc	0	-1	-1	0	-1	0	0	-3
ctnna1	1	-1	0	-1	-1	-1	0	-3
brd2	-1	1	-1	-1	-1	-1	1	-3
mcm3ap	0	-1	0	-1	0	-1	0	-3
scai	0	0	0	1	-1	-1	-1	-2
myc	-1	1	0	0	0	-1	-1	-2
aar2	-1	0	0	-1	0	-1	1	-2
akap8l	0	-1	-1	0	0	-1	1	-2
atf3	-1	1	0	0	-1	0	-1	-2
rxra	0	-1	0	-1	-1	0	1	-2
stx4	-1	-1	0	0	0	0	0	-2
creb1	0	-1	1	1	-1	-1	-1	-2
junb	-1	1	0	0	-1	-1	0	-2
jak2	-1	1	0	-1	-1	0	0	-2
ccdc8	0	-1	-1	0	0	0	0	-2
crebbp	0	-1	-1	-1	0	0	1	-2
ctnna2	0	0	-1	0	-1	1	-1	-2
rnf213	-1	-1	0	0	0	-1	1	-2
clu	1	-1	-1	-1	-1	0	1	-2
rela	-1	0	0	0	-1	1	-1	-2
stip1	-1	1	1	1	0	0	0	2
cul2	0	1	0	0	0	0	1	2
atm	1	1	0	1	-1	0	0	2
fancg	0	1	0	0	1	0	0	2
sarm1	0	0	0	1	1	-1	1	2
golga5	0	1	1	0	0	0	0	2
pabpc4	0	0	1	0	0	1	0	2
g3bp1	0	0	-1	1	1	0	1	2
nr2c2	1	-1	0	1	0	0	1	2
sumo1	1	1	0	-1	1	0	0	2
rif1	0	1	0	0	-1	1	1	2
fam20c	0	1	1	0	0	0	0	2
arfgef2	1	0	-1	1	1	-1	1	2
prpf40a	0	0	0	1	1	-1	1	2
tut1	1	1	0	0	0	0	0	2
hmga1	-1	1	0	1	1	0	0	2
ca12	1	0	0	1	1	-1	0	2
bclaf1	0	-1	1	1	0	1	0	2
tfdp1	1	-1	0	0	1	0	1	2
hnf4a	0	1	-1	1	0	1	0	2
smad3	0	-1	1	-1	1	1	1	2
dsp	1	1	-1	-1	1	1	0	2
psat1	0	1	1	0	0	0	0	2
larp1	0	0	1	-1	1	0	1	2
taf4	1	0	0	0	1	0	0	2
emd	0	1	1	0	1	0	0	3
sympk	0	0	0	0	1	1	1	3
ep300	0	1	1	-1	0	1	1	3
rab1a	0	1	1	-1	1	0	1	3
irak1	0	0	1	-1	1	1	1	3
ptprj	-1	1	1	0	0	1	1	3
egfr	0	1	1	1	1	-1	0	3
neu1	-1	1	1	1	1	-1	1	3
csnk2a2	0	1	1	-1	1	0	1	3
zc3h18	0	1	0	0	0	1	1	3
fgb	-1	1	1	1	1	1	-1	3
plau	0	0	0	1	1	1	0	3
itch	0	1	0	1	0	0	1	3
ssbp1	0	1	1	1	1	0	0	4
bet1	1	1	0	0	1	0	1	4

D

GO biological process complete	raw P value	▲ FDR
response to stress	4.38E-14	6.96E-10
symbiotic process	1.53E-13	8.12E-10
positive regulation of nitrogen compound metabolic process	1.14E-13	9.09E-10
positive regulation of cellular process	2.39E-13	9.50E-10
positive regulation of metabolic process	3.48E-13	1.11E-09
positive regulation of cellular metabolic process	7.15E-13	1.62E-09
positive regulation of macromolecule metabolic process	6.42E-13	1.70E-09
viral process	1.64E-12	3.27E-09
response to organic substance	3.24E-12	5.72E-09
positive regulation of biological process	3.99E-12	6.34E-09
regulation of cell communication	4.92E-12	7.12E-09
regulation of signaling	6.97E-12	9.24E-09
positive regulation of gene expression	8.10E-12	9.90E-09
regulation of signal transduction	1.25E-11	1.32E-08
organic substance metabolic process	1.18E-11	1.34E-08
macromolecule metabolic process	2.48E-11	2.46E-08
regulation of response to stimulus	2.96E-11	2.62E-08
gene expression	2.83E-11	2.65E-08
cellular response to chemical stimulus	3.46E-11	2.90E-08
positive regulation of transcription by RNA polymerase II	4.96E-11	3.94E-08
gland development	5.33E-11	4.03E-08
cellular response to stress	6.53E-11	4.72E-08
cellular response to organic substance	8.04E-11	5.56E-08
primary metabolic process	1.08E-10	6.63E-08
cellular metabolic process	1.08E-10	6.89E-08
metabolic process	1.07E-10	7.07E-08
interspecies interaction between organisms	1.37E-10	8.07E-08
response to chemical	1.63E-10	9.25E-08
regulation of apoptotic process	1.99E-10	1.05E-07
positive regulation of cellular biosynthetic process	1.93E-10	1.06E-07
regulation of cell death	2.45E-10	1.25E-07