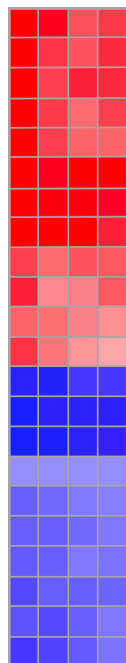


① Signature

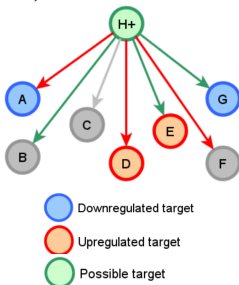
BCG-CGS



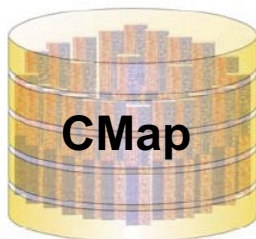
MMP1
IL6
CCL3L1
IL1A
CCL20
IL1F9
CSF2
IFNG
CCL3
IL24
TNF
F3
FPR3
FCN1
TGFB1
AIF1
RNASE6
GPR162
VMO1
LYZ
CCL24
CSF1R

② Query

A) Causal Networks



B) Connectivity Map



③ Prioritize Positive Connections Connections and Key Hubs

A) Key Hubs

Key Hub	Molecular Function	Gene Symbol	Predicted Activity†
HEY1	Transcription factor	HEY1	-
PHF20	Binding protein	PHF20	+
DSIP1 (GILZ)	Transcription factor	TSC22D3	-
TAFII70	Transcription factor	TAF6	+
DSIP1 (GILZ)	Transcription factor	TSC22D3	-
Glutaredoxin 1	Enzyme	GLRX	+
Jagged1	Receptor ligand	JAG1	-
RUNX2	Transcription factor	RUNX2	+
NOTCH1 (NICD)	Transcription factor	NOTCH1	+
HAND1	Transcription factor	HAND1	-
PRMT6	Enzyme	PRMT6	+

B) Positive CMap Connections

Gene Connections

A549 cell line

Score	Type	Name
99.93	+	SMAD7
99.93	-	TBX2
99.93	-	EIF4EBP1
99.81	+	PRPF6
99.79	-	ANKRD55
99.78	+	SF1
99.78	-	BIRC2
99.75	+	PTMS
99.74	-	HDAC10
99.73	-	EIF4B

All cell lines

Score	Type	Name
99.81	-	RAB31
99.70	-	AGT
99.29	-	WNT10B
99.21	-	KSR2
99.15	-	SHMT2
98.98	+	SMAD7
98.98	+	LYN
98.96	-	GABRA5
98.66	-	ADRB2
98.58	-	TIMP2

Compound Connections

A549 cell line

Score	Name
99.74	bisindolylmaleimide
99.51	OM-137
99.47	VU-0365114-2
99.46	pyrazolanthrone
99.21	S-14506
99.01	heliomycin
98.87	CGP-37157
98.75	1-phenylbiguanide
98.62	mebendazole
98.46	LE-135

All cell lines

Score ▼	Name
98.65	prostratin
98.52	ingenol
97.85	raltegravir
97.25	emetine
96.72	phorbol-12-myristate-13-acetate
95.32	mebendazole
95.06	lopinavir
95.04	MST-312
94.71	narciclasine
94.51	verrucarin-a

Score: CMap connectivity score + Overexpression - Knockdown

④ Explain Biology: Highly Enriched Pathway Map with BCG-Signature

