

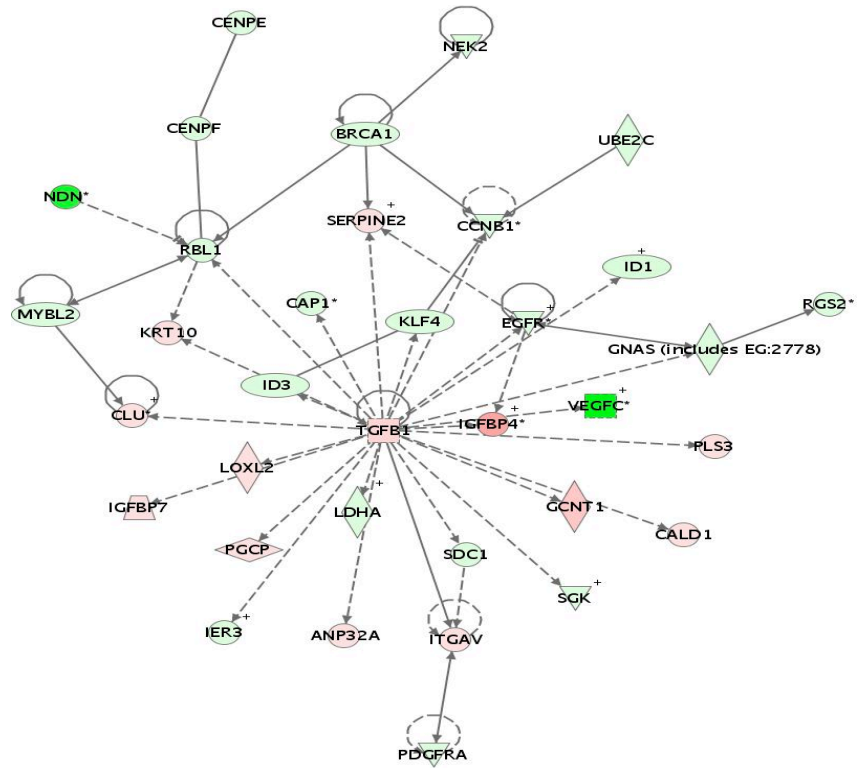
Supplemental Data 1

Pathway analysis between HNF-1 α (+/-)/RIP-Tag beta-cell line and HNF-1 α (++)/RIP-Tag beta-cell line or HNF-1 α (-/-)/RIP-Tag beta-cell line and HNF-1 α (+/+)/RIP-Tag beta-cell line.

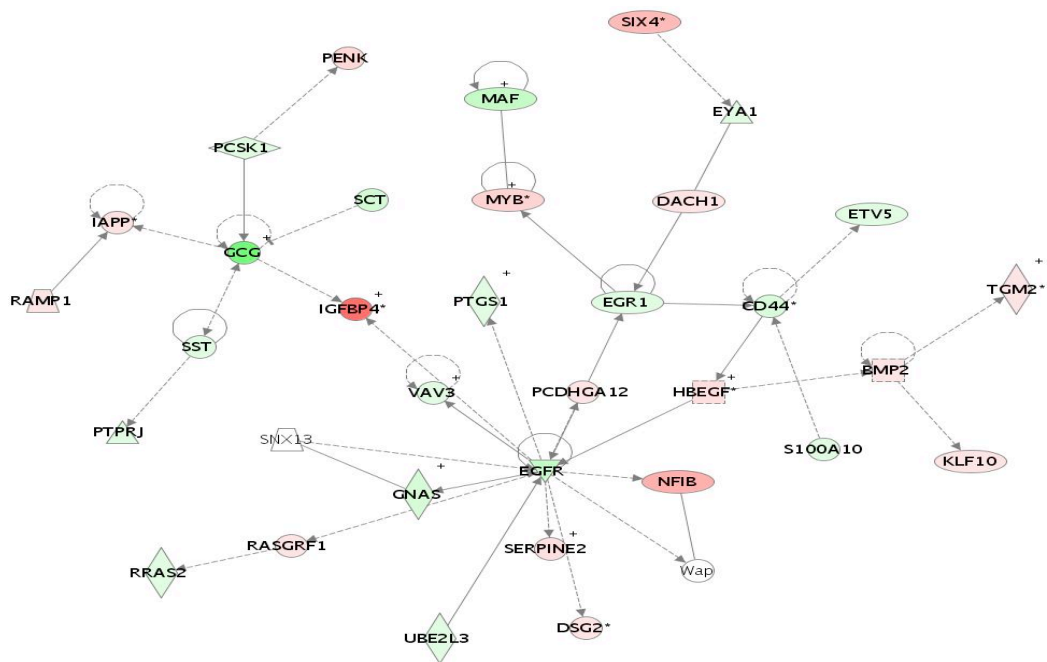
Network	Score	Focus genes	Top functional categories
H1A (+/-)/RIP-Tag versus H1A (++)/RIP-Tag beta-cell line			
1	60	35	Cellular Growth and Proliferation, Cell Death, Cancer
2	25	20	Cellular Assembly and Organization, Cell Cycle, DNA Replication, Recombination, and Repair
3	19	17	Cellular Movement, Cellular Assembly and Organization, Nervous System Development and Function
4	18	16	Gene Expression, Cancer, Cell Cycle
5	18	16	Cancer, Cellular Growth and Proliferation, Immunological Disease
6	18	16	Cancer, Cellular Growth and Proliferation, DNA Replication, Recombination, and Repair
7	18	16	Cellular Growth and Proliferation, Renal and Urological Disease, Drug Metabolism
H1A (-/-)/RIP-Tag versus H1A (++)/RIP-Tag beta-cell line			
1	49	33	Cellular Growth and Proliferation, Cell Signaling, Nucleic Acid Metabolism
2	20	19	Cell Death, Dermatological Diseases and Conditions, Connective Tissue Disorders
3	17	17	Cell Cycle, Cellular Movement, Cellular Development
4	15	16	Molecular Transport, RNA Trafficking, Cell-To-Cell Signaling and Interaction
5	14	15	Carbohydrate Metabolism, Small Molecule Biochemistry, Cardiovascular System Development and Function
6	14	15	Cellular Movement, Cancer, Reproductive System Disease
7	14	15	Hematological System Development and Function, Cardiovascular Disease, Hematological Disease
8	14	15	Cell Signaling, Cellular Assembly and Organization, Cellular Compromise

Supplemental Data 2

A



B



Supplemental Data 3

Real-time PCR analysis for SERPINE2, IGFBP4, TGFB1 and IGFBP7 in HNF-1 α

	H1A (+/+)-Tag	H1A (+/-)-Tag	H1A (-/-)-Tag
n	4	4	4
SERPINE2	1.0 \pm 0.1	13.4 \pm 2.5*	13 \pm 0.8*
IGFBP4	1.0 \pm 0.1	4.9 \pm 0.6*	16.8 \pm 0.6*#
TGFB1	1.0 \pm 0.1	150.6 \pm 18.*	28.0 \pm 3.9*#
IGFBP7	1.0 \pm 0.1	4.1 \pm 0.1*	2.3 \pm 0.1*#

(+/+)/RIP-Tag, HNF-1 α (+/-)/RIP-Tag and HNF-1 α (-)/RIP-Tag beta-cell lines.

* $P < 0.05$ compared with H1A (+/+)-Tag

$P < 0.05$ compared with H1A (+/-)-Tag

Supplemental Data 4

Changes of beta-cell related genes in HNF-1 α (+/+)/RIP-Tag, HNF-1 α (+/-)/RIP-Tag and HNF-1 α (-/-)/RIP-Tag beta-cell lines.

Accession	gene	fold change	
		+/- / +/+	-/- / +/+
hormone and growth factors			
NM_008386	insulin I	1.26	1.23
NM_008387	insulin II	1.07	1.01
AF276754	glucagon	0.25	0.07
			↓
			↓
transcription factors			
AK020261	Pdx-1	0.87	0.99
NM_010446	forkhead box A2 (Foxa-2)	1.97	1.63
		↑	↑
AF357883	Nkx-6.1	1.18	1.25
NM_010919	Nkx-2.2	1.60	1.39
		↑	
AF031150	Pax-4	1.67	1.12
		↑	
BC011272	Pax-6	1.12	1.21
AK008017	Ngn-3	1.00	1.15
BQ176915	isl-1	0.64	0.92
		↓	
BM116592	NeuroD-1	1.29	0.87
glucose metabolism			
NM_013631	liver pyruvate kinase (L-Pk)	0.99	0.87
NM_031197	glucose transporter type 2 (Glut2)	1.13	0.93
BC024112	aldolase B	0.87	0.87
BC011139	glucokinase	1.58	1.56
		↑	↑
others			
NM_010512	insulin-like growth factor 1 (IGF-1)	1.09	1.06
NM_009864	E-cadherin	1.60	1.02
		↑	
AI314694	Tmem27	1.17	0.65
			↓

Abbreviations: +/+, H1A(+)/RIP-Tag; +/-, H1A(+/-)/RIP-Tag; -/-, H1A(-)/RIP-Tag

A single arrow and a double arrow show changes of 1.5~ 2-fold or > 2-fold, respectively.