IPA® Summary of Analysis

Analysis Name: snail_day1_fold=2_adjpval=0.01
Analysis Creation Date: 2011-05-23
IPA version: 9.0 (Release Date: 2011-05-20)
Content version: 3210 (Release Date: 2011-05-17)

Analysis settings

View

Reference set: Human Genome U133 Plus 2.0 Array
Relationship to include: Direct and Indirect
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Top Networks

ID	Associated Network Functions	Score
1	Cell Death, Cellular Movement, Lipid Metabolism	45
2	Gastrointestinal Disease, Genetic Disorder, Metabolic Disease	37
3	Cellular Development, Cellular Growth and Proliferation, Cell-To-Cell Signaling and Interaction	35

Top Bio Functions

Diseases and Disorders

Name	p-value	# Molecules
Cancer	2.20E-05 - 4.25E-02	210
Gastrointestinal Disease	3.15E-05 - 3.88E-02	230
Genetic Disorder	3.15E-05 - 4.25E-02	371
Inflammatory Disease	3.15E-05 - 4.14E-02	172
Reproductive System Disease	7.35E-05 - 4.19E-02	130

Molecular and Cellular Functions

Name	p-value	# Molecules
Cellular Movement	1.46E-05 - 3.88E-02	93
Cell Death	2.54E-05 - 4.23E-02	88
Cell Cycle	7.64E-05 - 4.25E-02	14
Cellular Growth and Proliferation	1.43E-04 - 4.10E-02	92
Cell-To-Cell Signaling and Interaction	2.11E-04 - 4.25E-02	75

Physiological System Development and Function

Name	p-value	# Molecules
Tissue Development	2.11E-04 - 3.67E-02	83
Tumor Morphology	7.17E-04 - 3.87E-02	28
Hematological System Development and Function	1.39E-03 - 4.25E-02	41
Humoral Immune Response	1.39E-03 - 1.39E-03	3
Immune Cell Trafficking	1.39E-03 - 4.25E-02	9

Top Canonical Pathways

Name	p-value	Ratio
Glycosphingolipid Biosynthesis - Globoseries	1.09E-02	4/39 (0.103)
Biosynthesis of Steroids	1.09E-02	4/121 (0.033)
Tight Junction Signaling	1.16E-02	13/164 (0.079)
HER-2 Signaling in Breast Cancer	1.4E-02	8/81 (0.099)
Glycosphingolipid Biosynthesis - Ganglioseries	1.75E-02	4/56 (0.071)

Top Molecules

Fold Change up-regulated

Molecules	Exp. Value	Exp. Chart
CTGF	↑8.050	
HSPA6*	↑7.150	
IL11	↑6.600	
ANXA1	↑6.370	
LIX1L	↑4.660	
LOXL2	↑4.600	
SERPINE2	↑4.260	
GEM	↑4.190	
CDH11*	↑4.020	
DSE	↑4.010	

Fold Change down-regulated

Molecules	Exp. Value	Exp. Chart
SLC6A14	-21.810	
PRR15L	-21.470	
DOK7	-17.190	
CLDN3*	-13.720	
SLC27A2*	-12.050	
PLS1	-11.410	
GPR160	-10.050	
CYB5A*	-9.870	
RAB25	-8.340	
AGPAT3*	-8.230	

Top My Lists

Name	p-value	Ratio

Top My Pathways

Name	p-value	Ratio

Top Tox Lists

Name	p-value	Ratio
Cytochrome P450 Panel - Substrate is a Vitamin (Human)	1.66E-02	2/6 (0.333)
Cytochrome P450 Panel - Substrate is a Vitamin (Mouse)	2.41E-02	2/7 (0.286)
Cytochrome P450 Panel - Substrate is a Vitamin (Rat)	2.41E-02	2/7 (0.286)
Liver Proliferation	1.06E-01	9/133 (0.068)
p53 Signaling	1.09E-01	7/95 (0.074)

Top Tox Functions

Assays: Clinical Chemistry and Hematology

Name	p-value	# Molecules
Increased Levels of Potassium	8.32E-02 - 8.32E-02	1
Increased Levels of AST	2.29E-01 - 2.29E-01	1
Increased Levels of Alkaline Phosphatase	4.85E-01 - 4.85E-01	2

Cardiotoxicity

Name	p-value	# Molecules
Cardiac Arteriopathy	6.78E-02 - 2.62E-01	66
Cardiac Arrythmia	8.32E-02 - 1.00E00	4
Cardiac Damage	8.32E-02 - 4.32E-01	2
Heart Failure	8.32E-02 - 1.00E00	8
Cardiac Dysfunction	1.60E-01 - 5.43E-01	4

Hepatotoxicity

Name	p-value	# Molecules
Liver Adhesion	5.26E-03 - 5.26E-03	2
Liver Cirrhosis	6.52E-03 - 1.09E-01	11
Liver Hemorrhaging	1.02E-02 - 1.02E-02	2
Liver Cholestasis	4.25E-02 - 1.95E-01	8
Liver Hepatitis	4.26E-02 - 1.00E00	6

Nephrotoxicity

Name	p-value	# Molecules
Renal Dysplasia	1.02E-02 - 4.25E-02	2
Renal Hypoplasia	4.25E-02 - 4.25E-02	1
Renal Tubule Injury	4.25E-02 - 5.62E-01	8
Renal Nephritis	6.02E-02 - 3.24E-01	8
Renal Enlargement	8.32E-02 - 8.32E-02	1

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Top Networks

ID	Associated Network Functions	Score
1	Amino Acid Metabolism, Small Molecule Biochemistry, Genetic Disorder	45
2	Cellular Assembly and Organization, Cell Death, Cell-To-Cell Signaling and Interaction	40
3	Cellular Development, Cellular Growth and Proliferation, Nervous System Development and Function	36

Top Bio Functions

Diseases and Disorders

Name	p-value	# Molecules
Cancer	2.42E-12 - 1.47E-02	369
Reproductive System Disease	1.87E-07 - 1.29E-02	225
Gastrointestinal Disease	2.29E-07 - 1.31E-02	384
Genetic Disorder	5.37E-07 - 1.47E-02	632
Hepatic System Disease	8.19E-06 - 1.31E-02	68

Molecular and Cellular Functions

Name	p-value	# Molecules
Cell Death	4.88E-09 - 1.57E-02	282
Cellular Movement	1.90E-08 - 1.51E-02	123
Cellular Growth and Proliferation	7.87E-05 - 1.53E-02	285
Cell-To-Cell Signaling and Interaction	1.24E-04 - 1.51E-02	96
Cellular Compromise	1.24E-04 - 1.47E-02	16

Physiological System Development and Function

Name	p-value	# Molecules
Hematological System Development and Function	5.15E-05 - 1.47E-02	71
Tissue Development	1.24E-04 - 1.57E-02	111
Tumor Morphology	1.24E-04 - 1.47E-02	43
Hair and Skin Development and Function	2.41E-04 - 1.53E-02	48
Cardiovascular System Development and Function	3.68E-04 - 1.47E-02	41

Top Canonical Pathways

Name	p-value	Ratio
Glycosphingolipid Biosynthesis - Globoseries	2.86E-03	6/39 (0.154)
Biosynthesis of Steroids	2.86E-03	6/121 (0.05)
Mechanisms of Viral Exit from Host Cells	6.68E-03	8/45 (0.178)
HER-2 Signaling in Breast Cancer	6.8E-03	12/81 (0.148)
Glycosphingolipid Biosynthesis - Lactoseries	8.17E-03	4/27 (0.148)

Top Molecules

Fold Change up-regulated

Molecules	Exp. Value	Exp. Chart
IL11	↑10.300	
LIX1L	↑8.230	
CTGF	↑7.870	
SERPINE2	↑7.810	
EDIL3	↑7.430	
TGFBI	↑7.110	
LOXL2*	↑6.940	
CDH11*	↑6.880	
TAGLN*	↑6.520	
IKBIP*	↑6.080	

Fold Change down-regulated

Molecules	Exp. Value	Exp. Chart
SLC6A14	-60.460	
GPR160	-33.930	
PRR15L	-26.750	
CLDN3*	-22.250	
ITGB6	-20.870	
PRLR*	-16.010	
PLS1	-15.820	
ANXA9*	-15.470	
CYB5A*	-15.130	
RAB25	-15.070	

Top My Lists

Name	p-value	Ratio

Top My Pathways

Name	p-value	Ratio

Top Tox Lists

Name	p-value	Ratio
Liver Proliferation	1.24E-02	17/133 (0.128)
Increases Permeability Transition of Mitochondria and Mitochondrial Membrane	1.57E-02	3/8 (0.375)
Increases Transmembrane Potential of Mitochondria and Mitochondrial Membrane	1.98E-02	8/50 (0.16)
Decreases Depolarization of Mitochondria and Mitochondrial Membrane	2.23E-02	3/9 (0.333)
Pro-Apoptosis	2.84E-02	7/42 (0.167)

Top Tox Functions

Assays: Clinical Chemistry and Hematology

Name	p-value	# Molecules
Increased Levels of ALT	4.44E-02 - 4.44E-02	2
Increased Levels of LDH	1.32E-01 - 1.32E-01	2
Increased Levels of Potassium	1.38E-01 - 1.38E-01	1
Increased Levels of AST	3.60E-01 - 3.60E-01	1
Increased Levels of Alkaline Phosphatase	5.20E-01 - 5.20E-01	3

Cardiotoxicity

Name	p-value	# Molecules
Cardiac Arteriopathy	4.66E-03 - 4.06E-01	117
Cardiac Arrythmia	6.35E-02 - 6.20E-01	4
Pulmonary Hypertension	1.09E-01 - 2.00E-01	6
Cardiac Damage	1.38E-01 - 5.22E-01	2
Cardiac Enlargement	1.38E-01 - 1.38E-01	1

Hepatotoxicity

Name	p-value	# Molecules
Liver Cirrhosis	9.88E-04 - 3.58E-02	19
Liver Degeneration	3.89E-03 - 3.89E-03	4
Liver Adhesion	1.47E-02 - 1.47E-02	2
Liver Hematopoiesis	1.47E-02 - 1.47E-02	2
Liver Necrosis/Cell Death	1.53E-02 - 6.20E-01	16

Nephrotoxicity

Name	p-value	# Molecules
Renal Dysplasia	2.63E-05 - 7.17E-02	4
Renal Damage	2.80E-02 - 4.49E-01	3
Renal Tubule Injury	2.80E-02 - 7.17E-02	13
Renal Necrosis/Cell Death	3.21E-02 - 5.87E-01	31
Glomerular Injury	7.17E-02 - 4.26E-01	3

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Top Networks

ID	Associated Network Functions	Score
1	Amino Acid Metabolism, Cellular Assembly and Organization, Gastrointestinal Disease	48
2	Post-Translational Modification, Molecular Transport, Genetic Disorder	38
3	Cellular Assembly and Organization, Gene Expression, Cell Cycle	36

Top Bio Functions

Diseases and Disorders

Name	p-value	# Molecules
Cancer	4.80E-18 - 5.14E-03	386
Gastrointestinal Disease	4.99E-15 - 5.10E-03	408
Genetic Disorder	1.70E-10 - 4.79E-03	629
Reproductive System Disease	2.56E-10 - 3.42E-03	234
Dermatological Diseases and Conditions	1.31E-07 - 5.64E-03	150

Molecular and Cellular Functions

Name	p-value	# Molecules
Cellular Movement	1.18E-13 - 5.64E-03	187
Cell Death	1.29E-08 - 5.40E-03	282
Cell-To-Cell Signaling and Interaction	4.26E-08 - 5.64E-03	123
Cellular Growth and Proliferation	2.54E-06 - 4.95E-03	288
Cellular Development	2.88E-06 - 5.64E-03	221

Physiological System Development and Function

Name	p-value	# Molecules
Tissue Development	4.26E-08 - 5.64E-03	127
Organ Development	9.67E-07 - 4.79E-03	107
Reproductive System Development and Function	9.67E-07 - 5.08E-03	26
Organismal Functions	2.24E-05 - 1.27E-04	20
Endocrine System Development and Function	2.28E-05 - 5.64E-03	16

Top Canonical Pathways

Name	p-value	Ratio
Aryl Hydrocarbon Receptor Signaling	3.02E-05	23/159 (0.145)
Mechanisms of Viral Exit from Host Cells	5.92E-05	11/45 (0.244)
NRF2-mediated Oxidative Stress Response	7.62E-05	27/193 (0.14)
Antiproliferative Role of TOB in T Cell Signaling	2.6E-04	8/26 (0.308)
Glutathione Metabolism	9.95E-04	10/90 (0.111)

Top Molecules

Fold Change up-regulated

Molecules	Exp. Value	Exp. Chart
CTGF	↑27.310	
SRPX	↑26.010	
IGFBP7*	↑24.020	
TAGLN*	↑17.350	
CALD1*	↑16.790	
EDIL3	↑14.510	
COL6A1*	↑13.940	
LOXL2*	↑13.590	
FHL1*	↑12.430	
COL5A1*	↑9.210	

Fold Change down-regulated

Molecules	Exp. Value	Exp. Chart
GPR160	-44.160	
AQP3*	-43.180	
SLC6A14	-36.950	
CXCR7	-31.960	
PKIB*	-28.250	
ITGB6*	-27.960	
CEACAM1 (includes others)*	-23.720	
GRHL1*	-20.400	
ZNF165	-19.450	
CLDN3*	-16.950	

Top My Lists

Name	p-value	Ratio

Top My Pathways

Name	p-value	Ratio

Top Tox Lists

Name	p-value	Ratio
Oxidative Stress	1.25E-05	14/57 (0.246)
Hepatic Fibrosis	5.15E-05	17/85 (0.2)
Glutathione Depletion - Phase II Reactions	7.83E-05	7/21 (0.333)
Aryl Hydrocarbon Receptor Signaling	1.1E-04	23/157 (0.146)
NRF2-mediated Oxidative Stress Response	3.3E-04	28/237 (0.118)

Top Tox Functions

Assays: Clinical Chemistry and Hematology

Name	p-value	# Molecules
Increased Levels of Albumin	6.92E-02 - 6.92E-02	1
Increased Levels of Alkaline Phosphatase	6.92E-02 - 1.19E-01	6
Decreased Levels of Albumin	1.94E-01 - 3.50E-01	2
Increased Levels of Red Blood Cells	1.94E-01 - 1.94E-01	1
Increased Levels of ALT	3.01E-01 - 3.01E-01	1

Cardiotoxicity

Name	p-value	# Molecules
Cardiac Hypertrophy	2.63E-03 - 5.46E-01	24
Cardiac Dilation	3.02E-02 - 3.99E-02	7
Cardiac Arrythmia	5.96E-02 - 1.00E00	11
Cardiac Enlargement	6.92E-02 - 2.49E-01	3
Cardiac Necrosis/Cell Death	6.92E-02 - 4.02E-01	13

Hepatotoxicity

Name	p-value	# Molecules
Liver Cirrhosis	1.08E-04 - 1.94E-01	26
Liver Adhesion	1.57E-04 - 1.37E-02	5
Glutathione Depletion In Liver	4.75E-04 - 6.92E-02	8
Liver Fibrosis	1.21E-03 - 4.76E-01	17
Hepatocellular Carcinoma	1.25E-03 - 1.25E-03	27

Nephrotoxicity

Name	p-value	# Molecules
Renal Damage	1.25E-03 - 1.00E00	8
Renal Tubule Injury	1.25E-03 - 3.83E-01	16
Renal Necrosis/Cell Death	2.63E-03 - 1.00E00	33
Kidney Failure	1.20E-02 - 3.01E-01	15
Renal Dysplasia	2.62E-02 - 6.92E-02	2

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Top Networks

ID	Associated Network Functions	Score
1	Cellular Development, Cell Cycle, Cancer	33
2	Cell-To-Cell Signaling and Interaction, Tissue Development, Connective Tissue Development and Function	32
3	Cellular Function and Maintenance, Cell-To-Cell Signaling and Interaction, Hematological System Development and Function	29

Top Bio Functions

Diseases and Disorders

Name	p-value	# Molecules
Dermatological Diseases and Conditions	9.08E-06 - 1.10E-02	21
Genetic Disorder	9.08E-06 - 1.10E-02	54
Cancer	1.26E-05 - 1.10E-02	36
Gastrointestinal Disease	1.26E-05 - 1.10E-02	21
Reproductive System Disease	1.56E-05 - 9.54E-03	29

Molecular and Cellular Functions

Name	p-value	# Molecules
Cell Death	4.09E-08 - 1.10E-02	28
Cell-To-Cell Signaling and Interaction	7.93E-08 - 1.10E-02	27
Cellular Development	5.16E-07 - 1.10E-02	32
Cellular Growth and Proliferation	5.20E-06 - 1.10E-02	32
Cellular Movement	1.90E-05 - 1.06E-02	24

Physiological System Development and Function

Name	p-value	# Molecules
Tissue Development	7.93E-08 - 1.10E-02	30
Connective Tissue Development and Function	5.16E-07 - 1.10E-02	16
Skeletal and Muscular System Development and Function	1.69E-06 - 1.10E-02	14
Hepatic System Development and Function	9.04E-05 - 1.10E-02	3
Organ Development	1.08E-04 - 1.10E-02	18

Top Canonical Pathways

Name	p-value	Ratio
Aldosterone Signaling in Epithelial Cells	1.44E-03	5/170 (0.029)
p53 Signaling	1.74E-03	4/96 (0.042)
Role of Tissue Factor in Cancer	2.71E-03	4/114 (0.035)
Glucocorticoid Receptor Signaling	2.91E-03	6/295 (0.02)
ERK5 Signaling	4.45E-03	3/64 (0.047)

Top Molecules

Fold Change up-regulated

Molecules	Exp. Value	Exp. Chart
HSPA6*	↑13.440	
CTGF	↑7.390	
IL11	↑6.820	
SERPINE2	↑5.100	
LARP6	↑4.600	
SERPINE1*	↑4.390	
FAS*	↑3.640	
FYN	↑3.410	
RGS2	↑3.400	
TGFBI	↑3.260	

Fold Change down-regulated

Molecules	Exp. Value	Exp. Chart
PRR15L	-4.850	
SAMD12	-3.360	
CALML5	-3.230	
MACC1*	-2.950	
SLC27A2*	-2.720	
FOXC1	-2.510	
BAG1	-2.460	
CYFIP2	-2.380	
AQP3	-2.350	
FBP1	-2.330	

Top My Lists

Name	p-value	Ratio

Top My Pathways

Name	p-value	Ratio

Top Tox Lists

Name	p-value	Ratio
p53 Signaling	1.88E-03	4/95 (0.042)
VDR/RXR Activation	9.21E-03	3/78 (0.038)
Cardiac Hypertrophy	1.3E-02	5/259 (0.019)
Hepatic Stellate Cell Activation	1.6E-02	2/35 (0.057)
Renal Necrosis/Cell Death	2.72E-02	5/314 (0.016)

Top Tox Functions

Assays: Clinical Chemistry and Hematology

Name	p-value	# Molecules
Increased Levels of Alkaline Phosphatase	1.20E-03 - 1.20E-03	3
Increased Levels of Potassium	1.10E-02 - 1.10E-02	1
Increased Levels of AST	3.28E-02 - 3.28E-02	1

Cardiotoxicity

Name	p-value	# Molecules
Cardiac Damage	1.10E-02 - 2.20E-02	1
Heart Failure	1.10E-02 - 2.80E-01	3
Cardiac Hypertrophy	1.70E-02 - 1.63E-01	6
Cardiac Dysfunction	9.01E-02 - 9.01E-02	1
Cardiac Fibrosis	9.51E-02 - 1.99E-01	1

Hepatotoxicity

Name	p-value	# Molecules
Liver Adhesion	9.04E-05 - 9.04E-05	2
Liver Cirrhosis	1.74E-03 - 1.74E-03	4
Liver Damage	1.10E-02 - 6.33E-02	2
Liver Necrosis/Cell Death	1.10E-02 - 7.72E-02	2
Liver Regeneration	1.10E-02 - 5.40E-02	2

Nephrotoxicity

Name	p-value	# Molecules
Renal Nephritis	1.93E-03 - 4.87E-02	3
Renal Necrosis/Cell Death	3.28E-02 - 9.36E-02	5
Renal Tubule Injury	7.41E-02 - 7.41E-02	2
Kidney Failure	1.58E-01 - 1.58E-01	1
Renal Proliferation	1.72E-01 - 1.72E-01	1

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Top Networks

ID	Associated Network Functions	Score
1	Cellular Compromise, Nutritional Disease, Cell Death	36
2	Cell-To-Cell Signaling and Interaction, Tissue Development, Cardiovascular System Development and Function	27
3	Cell Cycle, Cell Death, Cellular Development	22

Top Bio Functions

Diseases and Disorders

Name	p-value	# Molecules
Cardiovascular Disease	2.63E-06 - 5.68E-03	31
Inflammatory Response	3.34E-06 - 5.98E-03	15
Cancer	3.67E-06 - 5.25E-03	41
Gastrointestinal Disease	3.67E-06 - 5.07E-03	48
Reproductive System Disease	4.45E-05 - 3.57E-03	28

Molecular and Cellular Functions

Name	p-value	# Molecules
Cellular Movement	1.97E-11 - 5.41E-03	34
Cell-To-Cell Signaling and Interaction	6.44E-10 - 6.28E-03	33
Cellular Growth and Proliferation	3.49E-09 - 5.98E-03	44
Cellular Development	4.35E-09 - 5.98E-03	39
Cell Death	4.43E-08 - 6.37E-03	37

Physiological System Development and Function

Name	p-value	# Molecules
Tissue Development	6.44E-10 - 5.91E-03	35
Tumor Morphology	2.55E-08 - 3.61E-03	16
Connective Tissue Development and Function	3.16E-06 - 4.74E-03	15
Skeletal and Muscular System Development and Function	7.32E-06 - 5.98E-03	19
Hematological System Development and Function	2.39E-05 - 5.98E-03	17

Top Canonical Pathways

Name	p-value	Ratio
Caveolar-mediated Endocytosis Signaling	1.24E-03	4/85 (0.047)
p53 Signaling	3.53E-03	4/96 (0.042)
Role of Tissue Factor in Cancer	5.43E-03	4/114 (0.035)
NRF2-mediated Oxidative Stress Response	6.61E-03	5/193 (0.026)
HER-2 Signaling in Breast Cancer	1.4E-02	3/81 (0.037)

Top Molecules

Fold Change up-regulated

Molecules	Exp. Value	Exp. Chart
SERPINE2	↑12.790	
HSPA6*	↑10.220	
IL11	↑8.580	
CTGF	↑8.340	
TGFBI	↑6.820	
SERPINE1*	↑6.700	
LARP6	↑5.400	
PRSS33	↑4.970	
FAS*	↑4.640	
JAG1*	↑4.100	

Fold Change down-regulated

Molecules	Exp. Value	Exp. Chart
PRR15L	↓6.330	
AGR3	↓4.490	
SAMD12	↓3.910	
ASCL1	↓3.480	
RNF144B	↓3.210	
FBP1	↓3.190	
S100A8	↓3.090	
DOK7	↓3.010	
SLC26A2	↓2.760	
TSGA10	↓2.730	

Top My Lists

Name	p-value	Ratio

Top My Pathways

Name	p-value	Ratio

Top Tox Lists

Name	p-value	Ratio
Renal Necrosis/Cell Death	1.03E-03	8/314 (0.025)
Increases Liver Hepatitis	1.94E-03	2/10 (0.2)
Increases Damage of Mitochondria	1.94E-03	2/11 (0.182)
p53 Signaling	3.81E-03	4/95 (0.042)
Increases Depolarization of Mitochondria and Mitochondrial Membrane	5.04E-03	2/17 (0.118)

Top Tox Functions

Assays: Clinical Chemistry and Hematology

Name	p-value	# Molecules
Increased Levels of Alkaline Phosphatase	2.09E-03 - 2.09E-03	3
Increased Levels of Potassium	1.34E-02 - 1.34E-02	1
Increased Levels of ALT	3.31E-02 - 3.31E-02	1
Increased Levels of AST	3.96E-02 - 3.96E-02	1
Increased Levels of LDH	5.89E-02 - 5.89E-02	1

Cardiotoxicity

Name	p-value	# Molecules
Cardiac Damage	2.65E-04 - 1.34E-02	3
Cardiac Hypertrophy	4.25E-03 - 1.94E-01	6
Cardiac Dysfunction	5.68E-03 - 5.68E-03	2
Cardiac Fibrosis	6.37E-03 - 2.37E-01	2
Heart Failure	1.03E-02 - 5.97E-02	5

Hepatotoxicity

Name	p-value	# Molecules
Liver Adhesion	1.33E-04 - 1.33E-04	2
Liver Damage	1.18E-03 - 8.84E-02	6
Liver Hepatitis	2.78E-03 - 1.83E-01	3
Liver Cirrhosis	3.53E-03 - 3.53E-03	4
Liver Cholestasis	4.43E-03 - 5.25E-02	2

Nephrotoxicity

Name	p-value	# Molecules
Renal Nephritis	2.82E-03 - 4.04E-02	3
Renal Necrosis/Cell Death	7.93E-03 - 8.39E-02	8
Kidney Failure	1.34E-02 - 1.20E-01	2
Renal Proliferation	2.18E-02 - 2.18E-02	2
Renal Tubule Injury	1.03E-01 - 1.03E-01	2

IPA® Summary of Analysis

Analysis Name: slug_day4_fold=2_adjpval=0.01
Analysis Creation Date: 2011-05-23
IPA version: 9.0 (Release Date: 2011-05-20)
Content version: 3210 (Release Date: 2011-05-17)

Analysis settings

View

Reference set: Human Genome U133 Plus 2.0 Array
Relationship to include: Direct and Indirect
Includes Endogenous Chemicals
Optional Analyses: My Pathways My List

Filter Summary:
Consider only relationships where
(confidence = Experimentally Observed) AND
(data sources = BIND OR BIOGRID OR ClinicalTrials.gov OR Cognia OR DIP OR Gene Ontology (GO) OR GVK Biosciences OR Ingenuity Expert Findings OR Ingenuity ExpertAssist Findings OR INTACT OR Interactome studies OR Kyoto Encyclopedia of Genes and Genomes (KEGG) OR MINT OR MIPS OR Obesity Gene Map Database OR TarBase)

Top Networks

ID	Associated Network Functions	Score
1	Cancer, Cellular Development, Tumor Morphology	37
2	Cancer, Cell-To-Cell Signaling and Interaction, Cellular Function and Maintenance	36
3	Cell Cycle, Cancer, Cellular Assembly and Organization	36

Top Bio Functions

Diseases and Disorders

Name	p-value	# Molecules
Cancer	2.56E-14 - 1.24E-02	367
Gastrointestinal Disease	7.15E-08 - 1.24E-02	370
Genetic Disorder	7.15E-08 - 1.14E-02	583
Reproductive System Disease	7.76E-07 - 1.14E-02	206
Antimicrobial Response	7.40E-06 - 7.10E-03	21

Molecular and Cellular Functions

Name	p-value	# Molecules
Cellular Movement	2.45E-10 - 1.17E-02	173
Cell Death	6.13E-07 - 1.24E-02	266
Cell Morphology	9.70E-07 - 9.99E-03	81
Gene Expression	6.23E-06 - 1.14E-02	190
Cellular Development	1.31E-05 - 1.24E-02	196

Physiological System Development and Function

Name	p-value	# Molecules
Organ Development	1.16E-05 - 1.05E-02	101
Reproductive System Development and Function	1.16E-05 - 1.05E-02	21
Skeletal and Muscular System Development and Function	1.71E-04 - 1.24E-02	49
Embryonic Development	3.01E-04 - 1.19E-02	61
Connective Tissue Development and Function	3.27E-04 - 1.17E-02	72

Top Canonical Pathways

Name	p-value	Ratio
Interferon Signaling	6.67E-07	12/36 (0.333)
Neuregulin Signaling	6.37E-04	15/102 (0.147)
Mechanisms of Viral Exit from Host Cells	1.32E-03	9/45 (0.2)
Non-Small Cell Lung Cancer Signaling	1.44E-03	12/79 (0.152)
Activation of IRF by Cytosolic Pattern Recognition Receptors	2.38E-03	11/72 (0.153)

Top Molecules

Fold Change up-regulated

Molecules	Exp. Value	Exp. Chart
IGFBP7*	↑13.820	
SRPX	↑11.730	
CTGF	↑9.990	
EDIL3	↑8.680	
MLLT11	↑8.650	
FHL1*	↑8.630	
CCL26	↑7.670	
SERPINE2	↑7.510	
MMP13	↑6.970	
BCAT1	↑6.960	

Fold Change down-regulated

Molecules	Exp. Value	Exp. Chart
ZNF165	↓22.360	
SLC6A14	↓16.860	
CEACAM1 (includes others)*	↓14.740	
SAMD12	↓14.190	
LAMP3	↓12.550	
SLC27A2*	↓10.790	
ENPP5*	↓10.560	
AQP3*	↓10.180	
GPR160	↓10.090	
CLDN3*	↓9.730	

Top My Lists

Name	p-value	Ratio

Top My Pathways

Name	p-value	Ratio

Top Tox Lists

Name	p-value	Ratio
Renal Necrosis/Cell Death	6.99E-03	33/314 (0.105)
Increases Depolarization of Mitochondria and Mitochondrial Membrane	2.09E-02	4/17 (0.235)
Liver Proliferation	3.6E-02	15/133 (0.113)
NRF2-mediated Oxidative Stress Response	3.88E-02	21/237 (0.089)
Increases Transmembrane Potential of Mitochondria and Mitochondrial Membrane	4.49E-02	7/50 (0.14)

Top Tox Functions

Assays: Clinical Chemistry and Hematology

Name	p-value	# Molecules
Increased Levels of Alkaline Phosphatase	4.39E-02 - 6.89E-02	7
Decreased Levels of Albumin	5.91E-02 - 5.91E-02	2
Increased Levels of Albumin	6.89E-02 - 6.89E-02	1
Increased Levels of ALT	3.00E-01 - 3.00E-01	1

Cardiotoxicity

Name	p-value	# Molecules
Cardiac Hypoplasia	1.41E-02 - 1.41E-02	3
Cardiac Fibrosis	6.89E-02 - 1.23E-01	3
Cardiac Necrosis/Cell Death	6.89E-02 - 2.69E-01	14
Cardiac Arrythmia	1.33E-01 - 1.00E00	5
Cardiac Damage	1.33E-01 - 6.05E-01	3

Hepatotoxicity

Name	p-value	# Molecules
Liver Cirrhosis	4.75E-03 - 1.95E-01	15
Liver Fibrosis	5.31E-03 - 4.35E-01	13
Hepatocellular Carcinoma	9.51E-03 - 9.51E-03	24
Liver Adhesion	1.36E-02 - 3.49E-01	3
Liver Hematopoiesis	1.36E-02 - 3.94E-01	3

Nephrotoxicity

Name	p-value	# Molecules
Renal Necrosis/Cell Death	3.58E-03 - 6.05E-01	33
Renal Dysplasia	2.59E-02 - 6.89E-02	2
Glomerular Injury	6.89E-02 - 6.89E-02	1
Renal Hypoplasia	6.89E-02 - 6.89E-02	1
Renal Nephritis	6.89E-02 - 1.00E00	7