

Analysis Name: OGE+SS-summary - 2013-09-04 03:09 PM

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Build version: 242990

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Analysis settings

[View](#)

Reference set: Ingenuity Knowledge Base (Genes Only)

Relationship to include: Direct and Indirect

Includes Endogenous Chemicals

Optional Analyses: My Pathways My List

Filter Summary:

Consider only molecules and/or relationships where

(confidence = Experimentally Observed) AND

(tissues/cell lines = Other T lymphocytes OR Effector memory helper T cells OR DU-145 OR Myeloma Cell Lines not otherwise specified OR Skeletal Muscle OR KM-12 OR A498 OR HCT-15 OR NCI-H226 OR Other Immune cell lines OR Kidney OR Spleen OR Central memory cytotoxic T cells OR Other Prostate Cancer Cell Lines OR Other Immune cells OR CD56bright NK cells OR Central memory helper T cells OR Tissues and Primary Cells not otherwise specified OR Naive B cells OR Mature monocyte-derived dendritic cells OR Cerebellum OR Retina OR Prostate Cancer Cell Lines not otherwise specified OR Natural T-regulatory cells OR Colon Cancer Cell Lines not otherwise specified OR HCT-116 OR U251 OR MALME-3M OR Cell Line not otherwise specified OR RXF-393 OR SN12C OR Hippocampus OR MDA-N OR Stomach OR IGROV1 OR Liver OR SF-539 OR HL-60 OR HeLa OR Other Cell Line OR SNB-19 OR CNS Cell Lines not otherwise specified OR ACHN OR Other Myeloma Cell Lines OR Other Lymphoma Cell Lines OR COLO205 OR Hypothalamus OR Amygdala OR Other Dendritic cells OR MDA-MB-231 OR M14 OR LOX IMVI OR Cells not otherwise specified OR Immature monocyte-derived dendritic cells OR Pancreas OR SK-OV-3 OR K-562 OR CCRF-CEM OR Mammary Gland OR NK cells not otherwise specified OR Testis OR Immune cell lines not otherwise specified OR THP-1 OR HT29 OR Other Colon Cancer Cell Lines OR Plasmacytoid dendritic cells OR 786-0 OR Bladder OR MOLT-4 OR Olfactory Bulb OR Other Lung Cancer Cell Lines OR Small Intestine OR Epidermis OR BT-549 OR NCI-H332M OR Macrophage Cancer Cell Lines not otherwise specified OR

Jurkat OR Dorsal Root Ganglion OR OVCAR-8 OR Th1 cells OR Melanoma Cell Lines not otherwise specified OR Other Kidney Cancer Cell Lines OR Uterus OR Activated Vd1 Gamma-delta T cells OR Lymphoma Cell Lines not otherwise specified OR Lung Cancer Cell Lines not otherwise specified OR SNB-75 OR Salivary Gland OR Cytotoxic T cells OR SF-268 OR UACC-62 OR Other NK cells OR J774 OR Other Organ Systems OR OVCAR-5 OR SR OR Activated CD56bright NK cells OR OVCAR-3 OR T47-D OR Other Melanoma Cell Lines OR Other CNS Cell Lines OR Ovary OR Other Macrophage Cancer Cell Lines OR Immune cells not otherwise specified OR Vd2 Gamma-delta T cells OR Other Leukemia Cell Lines OR SF-295 OR Neutrophils OR Effector T cells OR TK-10 OR Thymus OR BDCA-3+ dendritic cells OR Adipose OR H460 OR Naive helper T cells OR Substantia Nigra OR Other Nervous System OR BDCA-1+ dendritic cells OR Prostate Gland OR Cervical cancer cell line not otherwise specified OR Breast Cancer Cell Lines not otherwise specified OR Organ Systems not otherwise specified OR T lymphocytes not otherwise specified OR A549-ATCC OR Other Ovarian Cancer Cell Lines OR Ovarian Cancer Cell Lines not otherwise specified OR Dendritic cells not otherwise specified OR Other Breast Cancer Cell Lines OR Lung OR HOP-62 OR Activated CD56dim NK cells OR Effector memory RA+ cytotoxic T cells OR SK-MEL-28 OR Activated helper T cells OR Nervous System not otherwise specified OR Memory B cells OR Monocyte-derived macrophage OR HOP-92 OR SW-620 OR Other Cells OR Other Tissues and Primary Cells OR MCF7 OR UACC-257 OR HS 578T OR Macrophages OR Leukemia Cell Lines not otherwise specified OR MDA-MB-435 OR Activated Vd2 Gamma-delta T cells OR EK VX OR Th2 cells OR NCI-ADR-RES OR SK-MEL-2 OR SK-MEL-5 OR CD56dim NK cells OR Other Cervical cancer cell line OR Monocytes OR Cerebral Cortex OR Kidney Cancer Cell Lines not otherwise specified OR RAW 264.7 OR UO-31 OR PC-3 OR RPMI-8266 OR Placenta OR Effector memory cytotoxic T cells OR Vd1 Gamma-delta T cells OR CAKI-1 OR OVCAR-4 OR HCC-2998 OR B lymphocytes not otherwise specified OR Murine NKT cells OR Other B lymphocytes OR NCI-H522 OR Large Intestine OR NCI-H23 OR Pituitary Gland OR Heart) AND

(data sources = BIND OR BIOGRID OR ClinicalTrials.gov OR Cognia OR DIP OR DrugBank OR Gene Ontology (GO) OR GVK Biosciences OR HumanCyc OR Ingenuity Expert Findings OR Ingenuity ExpertAssist Findings OR INTACT OR Interactome studies OR MINT OR MIPS OR miRBase OR miRecords OR Mouse Genome Database (MGD) OR Obesity Gene Map Database OR TarBase OR TargetScan Human)

Cutoff:

Top Networks

ID	Associated Network Functions	Score
1	Cell Death and Survival, Developmental Disorder, Hereditary Disorder	39
2	Antimicrobial Response, Inflammatory Response, Infectious Disease	37
3	Organismal Injury and Abnormalities, Cellular Movement, Nervous System Development and Function	29
4	Hematological Disease, Immunological Disease, Infectious Disease	28
5	Connective Tissue Disorders, Hereditary Disorder, Organismal Injury and Abnormalities	26

Top Diseases and Bio Functions

Diseases and Disorders

Name	p-value	# Molecules
Dermatological Diseases and Conditions	1.16E-31 - 1.56E-03	73
Infectious Disease	1.47E-24 - 1.63E-03	87
Connective Tissue Disorders	8.18E-17 - 1.10E-03	58
Inflammatory Disease	8.18E-17 - 1.15E-03	83
Skeletal and Muscular Disorders	8.18E-17 - 1.10E-03	77

Molecular and Cellular Functions

Name	p-value	# Molecules
Cell Death and Survival	1.04E-14 - 1.63E-03	97
Cellular Growth and Proliferation	4.34E-14 - 1.63E-03	99
Cellular Function and Maintenance	9.07E-11 - 1.63E-03	53
Antigen Presentation	7.59E-10 - 1.54E-09	13
Protein Synthesis	7.59E-10 - 1.24E-03	39

Physiological System Development and Function

Name	p-value	# Molecules
Hematological System Development and Function	1.51E-09 - 1.63E-03	64
Immune Cell Trafficking	1.51E-09 - 1.53E-03	40
Tumor Morphology	4.33E-08 - 1.10E-03	18
Tissue Morphology	4.72E-07 - 1.52E-03	50
Hair and Skin Development and Function	5.28E-07 - 6.63E-04	12

Top Canonical Pathways

Name	p-value	Ratio
Antigen Presentation Pathway	2.09E-15	12/40 (0.3)
Interferon Signaling	5.85E-11	9/36 (0.25)
Role of Pattern Recognition Receptors in Recognition of Bacteria and Viruses	5.74E-09	11/106 (0.104)
Protein Ubiquitination Pathway	9.42E-08	15/268 (0.056)
Activation of IRF by Cytosolic Pattern Recognition Receptors	3.25E-07	8/72 (0.111)

Top Molecules

Log Ratio up-regulated

Molecules	Exp. Value	Exp. Chart
ABCC1	↑1.000	
AHCYL2	↑1.000	
AKAP2	↑1.000	
AKR1B10	↑1.000	
AKR1C1/AKR1C2	↑1.000	
APOL2	↑1.000	
ARHGEF2	↑1.000	
B2M	↑1.000	
BCL10	↑1.000	
BCL2L13	↑1.000	

Log Ratio down-regulated

Molecules	Exp. Value	Exp. Chart
UHRF1	↓-1.000	
TYMS	↓-1.000	
TPPP3	↓-1.000	

SNW1	↓-1.000
SMC2	↓-1.000
SLC12A2	↓-1.000
SDC1	↓-1.000
SCD	↓-1.000
PDCD4	↓-1.000
NRCAM	↓-1.000

Top Upstream Regulators

Upstream Regulator	p-value of overlap	Predicted Activation State
IFNG	2.20E-51	Activated
IRF7	1.93E-49	Activated
IFNA2	7.31E-49	Activated
IFNL1	7.91E-48	Activated
MAPK1	1.39E-45	Inhibited

Top My Lists

Name	p-value	Ratio
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Top My Pathways

Name	p-value	Ratio
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Top Tox Lists

Name	p-value	Ratio
PPARα/RXRα Activation	1.38E-04	9/181 (0.05)
Oxidative Stress	3.42E-04	5/57 (0.088)
Renal Necrosis/Cell Death	4.17E-04	14/461 (0.03)
Hypoxia-Inducible Factor Signaling	8.83E-04	5/70 (0.071)
NRF2-mediated Oxidative Stress Response	9.03E-04	9/234 (0.038)

Top Tox Functions

Assays: Clinical Chemistry and Hematology

Name	p-value	# Molecules
Increased Levels of Hematocrit	3.74E-03 - 3.74E-03	5
Increased Levels of Alkaline Phosphatase	3.70E-02 - 3.70E-02	3
Increased Levels of Creatinine	5.30E-02 - 5.30E-02	2
Increased Levels of Albumin	6.20E-02 - 8.18E-02	2
Increased Levels of AST	1.20E-01 - 1.20E-01	1

Cardiotoxicity

Name	p-value	# Molecules
Cardiac Fibrosis	7.65E-03 - 2.11E-02	5
Cardiac Inflammation	8.71E-03 - 8.71E-03	3
Heart Failure	1.06E-02 - 2.65E-01	4
Cardiac Infarction	1.16E-02 - 1.16E-02	6
Cardiac Dysfunction	1.53E-02 - 2.09E-01	3

Hepatotoxicity

Name	p-value	# Molecules
Hepatocellular Carcinoma	3.90E-08 - 4.62E-01	21
Liver Hyperplasia/Hyperproliferation	3.90E-08 - 4.62E-01	24
Liver Inflammation/Hepatitis	1.28E-06 - 3.88E-01	14
Liver Damage	1.19E-05 - 2.18E-01	11
Liver Fibrosis	1.92E-04 - 1.84E-01	9

Nephrotoxicity

Name	p-value	# Molecules
Renal Inflammation	1.10E-03 - 2.18E-01	10
Renal Nephritis	1.10E-03 - 2.18E-01	10
Renal Damage	8.09E-03 - 2.59E-01	5
Renal Tubule Injury	8.09E-03 - 2.59E-01	5
Renal Necrosis/Cell Death	9.86E-03 - 2.42E-01	14