



Analysis Name: Cpd 2 vs Ctr
 Analysis Creation Date: 2025-01-16
 Build version: exported
 Content version: 127006219 (Release Date: 2024-11-17)

Experiment Metadata

Name	Value
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Analysis Settings

Top Canonical Pathways

Name	p-value	Overlap
Oxidative Phosphorylation	9.69e-66	68.5 % 74/108
Mitochondrial Dysfunction	3.63e-59	34.2 % 118/345
Respiratory electron transport	1.92e-56	70.5 % 62/88
Mitochondrial protein degradation	6.52e-55	65.3 % 64/98
Sirtuin Signaling Pathway	9.03e-46	32.3 % 96/297

Top Upstream Regulators

Upstream Regulators

Name	p-value	Predicted Activation
UQCC3	7.36e-69	Activated
metribolone	5.82e-63	
HNF4A	6.13e-59	
TEAD1	5.87e-53	Activated
TLE3	1.74e-49	

Causal Network

Name	p-value	Predicted Activation
CCNT1	2.14e-76	Inhibited
KPNA2	3.88e-76	
CHEK2	2.03e-75	Inhibited
ZEB (family)	9.15e-70	Activated
S6K1 (family)	6.54e-69	Inhibited

Top Diseases and Bio Functions

Diseases and Disorders

Name	p-value range	# Molecules
Cancer	1.08e-04 - 1.79e-149	1518
Organismal Injury and Abnormalities	1.08e-04 - 1.79e-149	1534
Hereditary Disorder	8.78e-05 - 2.95e-98	762
Metabolic Disease	1.08e-04 - 2.95e-98	723
Endocrine System Disorders	1.08e-04 - 1.37e-70	1301

Molecular and Cellular Functions

Name	p-value range	# Molecules
Cell Signaling	1.29e-05 - 7.56e-37	96
Post-Translational Modification	1.90e-05 - 7.56e-37	163
Protein Synthesis	1.25e-05 - 7.56e-37	352
Cell Death and Survival	1.05e-04 - 1.15e-29	667
Free Radical Scavenging	1.27e-11 - 9.82e-28	190

Physiological System Development and Function

Name	p-value range	# Molecules
Organismal Survival	1.45e-07 - 9.25e-29	515
Renal and Urological System Development and Function	6.25e-05 - 1.34e-09	78
Embryonic Development	2.56e-05 - 7.73e-09	219
Organismal Development	5.23e-05 - 7.73e-09	296
Tissue Morphology	8.78e-05 - 7.73e-09	143

Top Tox Functions

Assays: Clinical Chemistry and Hematology

Name	p-value range	# Molecules
Increased Levels of AST	7.84e-03 - 7.84e-03	6
Increased Levels of Red Blood Cells	5.28e-02 - 5.28e-02	12
Increased Levels of ALT	1.99e-01 - 5.78e-02	6
Increased Levels of Hematocrit	7.85e-02 - 7.85e-02	10
Increased Levels of Creatinine	1.16e-01 - 1.16e-01	7

Cardiotoxicity

Name	p-value range	# Molecules
Cardiac Dysfunction	1.00e00 - 1.15e-10	81
Cardiac Dilation	5.60e-01 - 2.64e-04	48
Cardiac Enlargement	1.00e00 - 2.64e-04	79
Cardiac Necrosis/Cell Death	1.00e00 - 8.30e-04	33
Cardiac Fibrosis	1.00e00 - 3.34e-03	33

Hepatotoxicity

Name	p-value range	# Molecules
Liver Hyperplasia/Hyperproliferation	1.00e00 - 1.32e-11	660
Hepatocellular carcinoma	1.00e00 - 4.44e-11	291
Liver Steatosis	3.39e-01 - 3.57e-09	89
Liver Necrosis/Cell Death	1.00e00 - 2.17e-08	51
Liver Cholestasis	3.79e-01 - 1.93e-07	23

Nephrotoxicity

Name	p-value range	# Molecules
Renal Necrosis/Cell Death	4.87e-01 - 1.34e-09	95
Renal Proliferation	1.00e00 - 4.50e-06	41
Renal Damage	1.00e00 - 3.61e-04	45
Renal Tubule Injury	2.14e-01 - 3.61e-04	23
Glomerular Injury	1.00e00 - 9.68e-04	84

Top Regulator Effect Networks

ID	Regulators	Disease & Functions	Consistency Score
1	2500002B13Rik,ABL2,APOC3,CASP3,CLCF1,CLPB,C RNDE (+15 more)	Biosynthesis of purine ribonucleotide (+5 more)	38.738
2	CD3 (family),IL6,INSR,SCAP,TRIM38	Conversion of acyl-coenzyme A (+4 more)	19.092
3	ADAR,ADRB (family),AP1 (complex),CAV1,CCL5,EGR1 (+14 more)	Abnormality of skin morphology (+8 more)	18.767
4	Alox15,CYP51A1,HDAC6,MFSD2A (+4 more)	Growth failure,Immune response of cells (+4 more)	16.527
5	CD3 (family),CHKB,EHHADH,ERK (family) (+5 more)	Modification of palmitic acid (+2 more)	16.444

Top Networks

ID	Associated Network Functions	Score
1	Hereditary Disorder, Metabolic Disease, Organismal Injury and Abnormalities	50
2	Developmental Disorder, Hereditary Disorder, Metabolic Disease	47
3	Post-Translational Modification, Developmental Disorder, Hereditary Disorder	47
4	Carbohydrate Metabolism, Lipid Metabolism, Small Molecule Biochemistry	44
5	Metabolic Disease, Organismal Injury and Abnormalities, Hereditary Disorder	44

Top Tox Lists

Name	p-value	Overlap
Mitochondrial Dysfunction	2.83e-61	34.3 % 122/356

Renal Necrosis/Cell Death	1.41e-14	13.4 % 95/707
Fatty Acid Metabolism	3.87e-13	26.7 % 31/116
NRF2-mediated Oxidative Stress Response	6.03e-10	16.2 % 44/272
Liver Necrosis/Cell Death	2.17e-08	13.4 % 51/381

Top My Lists

Top My Pathways

Top ML Disease Pathways

Name	p-value	Overlap
Leigh syndrome	1.65e-11	35.7 % 20/56
Mitochondrial DNA-related disorder	1.65e-11	35.7 % 20/56
Aciduria	2.94e-10	37.0 % 17/46
Encephalomyopathy	1.23e-09	32.1 % 18/56
Mitochondrial encephalomyopathy	1.23e-09	32.1 % 18/56

Top Analysis-Ready Molecules

Expr Log Ratio

Molecules	Expr. Value	Chart
C4BPA	↑ 5.841	
HBD	↑ 5.124	
F5	↑ 4.581	
RSAD2	↑ 4.469	
SQSTM1	↑ 4.429	
VTN	↑ 4.374	
MAP1LC3A	↑ 4.337	
ITIH2	↑ 3.681	
ATF3	↑ 3.634	
PLG	↑ 3.324	

Expr Log Ratio

Molecules	Expr. Value	Chart
HPGD	↓ -2.484	
ENC1	↓ -2.372	
GATA6	↓ -2.254	
DAB2	↓ -2.246	
S100A4	↓ -2.222	
CST1	↓ -2.085	

MYO15B	↓ -2.007	
TWSG1	↓ -1.869	
CHI3L1	↓ -1.817	
KLK6	↓ -1.759	