

Table S3	Name	p-value range	# Molecules				
<b>Brain</b>							
1	Cellular Compromise	4.22E-03 - 1.57E-10	42	ALDOC AP2A2 ATP1B2 ATP6V0A1 C3 CES1 COTL1 CP CTSC GPI GRN	GSTP1 GZMB HP HPX IDH1 KRT18 MAPT MECP2 MGST1 MOG MSN	NEFL Nefm PAFAH1B2 PDXK PLP1 PNP PPP2CA PPT1 PRDX6 PSMB1 PYGL	RAB3A RAB7A RALA RAP1B RNLS SLC1A3 STAMBP TFAM VCP
2	Molecular Transport	5.37E-03 - 2.37E-09	65	ACADM AKR1B1 ALDH1A1 AP2A2 AP2M1 ATP1B2 ATP2B2 ATP5F1B ATP6V0A1 BCAT2 C3 CA1 CACNA2D3 CES1 CLTRN CP CPLX1	DBI DDX39B EIF2D EPHX1 GAD2 GAPDH GAPDHS GGT1 GSR H2AFY HADH HNRNPA2B1 HP HPX IDH1 LETM1 LMNA	LRRC8A LRRC8C MAPT MECP2 MSN NAPA PCK1 PDCD6 PHAX PHB PNP PPT1 PRDX2 PRDX6 RAB34 RAB3A RAB3C	RAB4A RAB7A RALA S100B SCARB1 SEC22B SLC1A3 SLC25A4 STX1A SV2A SYN2 TOMM40 TPT1 VPS45
3	Cell Morphology	4.96E-03 - 4.78E-09	51	AP2M1 ATP1B2 ATP2B2 C1QBP C3 CACNA2D3	GRN HNRNPA2B1 KLK8 KRT18 LETM1 LMNA	NEFL Nefm PCK1 PLP1 PPP2CA PPT1	S100B SLC1A3 STIP1 STX1A SV2A SYN2

				CAPZB CEP83 CES1 CP CPLX1 CSRP1 GAPDH GDI1	LYPLA1 MAPT MECP2 MOG MSN MUSK MYBPC3 MYH6	RAB35 RAB3A RAB4A RAB7A RALA RAP1B RIPOR2 RPS14	TFAM VCP Wasl
<b>Heart</b>							
1	Amino Acid Metabolism	4.25E-03 - 1.29E-12	21	ARG1 ASPA ASS1 BAAT BHMT BHMT2	CKMT2 CPS1 CTH DDAH2 FABP3 GLYAT	Gnmt GSN GSTZ1 MAT1A NIT2 STX1A	SYN1 SYN2 UPB1
2	Small Molecule Biochemistry	7.96E-03 - 1.29E-12	86	A2M ABCC2 ACAA2 Acot1 ACOT7 ACOX1 ADH1C Akr1c14 AKR7A3 Aldh1a7 ALDOB AMACR ANXA1 ARG1 ASPA ASS1 ATP2B2 ATP5F1D ATP5PF ATP5PO BAAT BDH2	BHMT BHMT2 CALCB Calm1 CAT CES1 CISD1 CKMT2 CMPK1 CPLX2 CPS1 CSRP3 CTH CYB5A Cyp2c23 CYP2C9 CYP4A22 DAB2 DBI DDAH2 DECR2 DPYS	EPHX1 FABP1 FABP3 FBP1 GLYAT GMFB Gnmt GPD1 GSN GSTM1 GSTM2 GSTM5 GSTZ1 HSD11B1 Hsd3b4 HSPA5 IDH1 MAPK1 MAT1A MIF MYH9 NAPRT	NIT2 OCRL PAFAH1B2 PGM1 PGR PLCB1 PNP RALA RGN RPSA SACM1L SNCG SOD1 SORD STX1A Sult1a1 SYN1 SYN2 UGT2B15 UPB1
3	Nucleic Acid Metabolism	6.42E-03 - 1.33E-10	32	ACAA2 Acot1	ATP5PF ATP5PO	CES1 CMPK1	GLYAT Gnmt

				ACOT7 ACOX1 ALDOB AMACR ATP2B2 ATP5F1D	BAAT BHMT BHMT2 CALCB Calm1 CAP1	CYP2C9 DBI DECR2 DPYS FABP1 GDA	GPD1 MAPK1 MAT1A NAPRT PNP SOD1
<b>Muscle</b>							
<b>1</b>	Vitamin and Mineral Metabolism	2.00E-02 - 1.01E-04	5	ACAA1 ALDH1A2	CYP2E1	EZR	HSPA8
<b>2</b>	Energy Production	4.35E-02 - 4.10E-04	5	ALDH1A2 ACAA1	CHDH	CYP2E1	PC
<b>3</b>	Post-Translational Modification	2.99E-02 - 6.64E-04	5	HSPA8 OAT	PDIA3	PRDX6	YWHAZ
<b>Liver</b>							
<b>1</b>	Amino Acid Metabolism	6.09E-04 - 2.91E-18	26	AGXT2 AHCY ALDH1L1 ASS1 BAAT BCKDHA BCKDHB	BHMT BHMT2 CKM CKMT2 CPS1 CS FAH	GCSH GLS2 GLUD1 GLUL Gnmt GSTZ1 HADH	HPD MAT1A NPPA PKM UPB1
<b>2</b>	Small Molecule Biochemistry	6.82E-04 - 2.91E-18	103	ACHE ACLY Acnat1/Acnat2 ACO2 Acot1 ACOT2 ACOX1 ACOX2 AGXT2 AHCY AKR1A1 AKR1B1 AKR1C1/AKR1C2 Akr1c14 AKR1C3	BAAT BCKDHA BCKDHB BHMT BHMT2 CKM CKMT2 CPS1 CPT2 CS CYB5B CYCS CYP2C19 CYP2C8 Cyp2d22	GLUD1 GLUL Gnmt GPD1 GSTA2 GSTA3 GSTZ1 Gulo HACL1 HADH HMGCS2 HPD HSD17B11 HSPA1A/HSPA1B IDH3A	NPPA NSDHL PC PDHA1 PDHB PGRMC1 PKM PMCH POR PTGR1 SCD SLC25A5 SOD2 Sult1a1 SULT1B1

				AKR1D1 ALDH1L1 ALDH9A1 ALDOA ALDOB AMACR ANXA5 ASS1 Atp5e ATP5F1C ATP5PO	DHRS4 EHHADH FABP1 FABP3 FAH FBP1 FH GAPDHS GC GCSH GLS2	KHK MAOA MAOB MAT1A MB MMP3 MYH3 MYH6 MYH7 MYH8 NDUFS1	TF UGT1A6 UGT2B15 UGT2B17 UGT2B28 UGT2B7 UPB1 UQCRFS1 VIM YWHAH
3	Lipid Metabolism	6.46E-04 - 2.21E-15	54	ACHE ACLY Acnat1/Acnat2 Acot1 ACOT2 ACOX1 ACOX2 AKR1A1 AKR1B1 AKR1C1/AKR1C2 Akr1c14 AKR1C3 AKR1D1 AMACR	ANXA5 BAAT CPT2 CS CYB5B CYCS CYP2C19 CYP2C8 Cyp2d22 DHRS4 EHHADH FABP1 FABP3 FH	GC GSTA2 GSTA3 HACL1 HADH HMGCS2 MAOA MB MMP3 NPPA NSDHL PDHA1 PDHB PGRMC1	PKM POR PTGR1 SCD SOD2 Sult1a1 UGT2B15 UGT2B17 UGT2B28 UGT2B7 VIM YWHAH
	<b>Kidney</b>						
1	Drug Metabolism	2.18E-02 - 3.88E-06	5	GSTM1 GSTM2	GSTO1	SLC3A2	HSD3B2
2	Molecular Transport	2.66E-02 - 3.51E-05	16	AHSG BLVRA Cyp4a14 FABP1	FGG GAPDHS GRN IL18	MGLL PKM RAB3A RAB3C	RBP4 SCARB1 SLC12A5 SLC3A2
3	Small Molecule Biochemistry	2.69E-02 - 3.51E-05 26	26	AHSG ATP5PF BLVRA COTL1 Cyp4a14 DCXR FABP1	GAPDHS GRN GSTM1 GSTM2 GSTO1 HSD3B2 Hsd3b4	IL18 LYZ MCCC1 MGLL MYH6 OTC PKM	RBP4 SCARB1 SLC12A5 SLC3A2 TXNRD1