Drug Metabolism and Disposition

Impact of Microbiome on Hepatic Metabolizing Enzymes and Transporters in Mice during Pregnancy

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Supplemental Table S1. Surrogate peptides of cytochrome P450s and transporters and their

MS/MS parameters for detection

Protein Name	Surrogate Peptide	Peptide Type	Parent Ion (m/z)	Fragment Ion (m/z)
Cyp2c37	DICQSFTNLSK	Light	656.8	796.4
Cyp2c37	DICQSFTNLSK	Light	656.8	709.4
Cyp2c50	YAILLLLK	Light	473.8	712.5
Cyp2c50	YAILLLLK	Light	473.8	599.4
Cyp2c54	ATNGMGIGFSNGSVWK	Light	813.4	1151.6
Cyp2c54	ATNGMGIGFSNGSVWK	Light	813.4	1094.6
Cyp2c54	ESLDVTIPR	Light	343.9	407.2
Cyp2c54	ESLDVTIPR	Light	343.9	350.7
Cyp2d22	MPYTNAVIHEVQR	Light	390.2	476.3
Cyp2d22	MPYTNAVIHEVQR	Light	390.2	476.2
Cyp2d40	GNPESSFNEANLR	Light	717.8	950.5
Cyp2d40	GNPESSFNEANLR	Light	717.8	863.4
Cyp3a11	ALLSPTFTSGK	Light	561.3	937.5
Cyp3a11	ALLSPTFTSGK	Light	561.3	824.4
Cyp3a11	ALLSPTFTSGK	Light	561.3	737.4
Cyp3a16	QDFFPVGIMSK	Light	423.5	731.4
Cyp3a16	QDFFPVGIMSK	Light	423.5	366.2
Cyp3a41	VDFLQLMMNAHNNSK	Light	441.2	599.3
Cyp3a41	VDFLQLMMNAHNNSK	Light	441.2	516.6
Cyp3a41	LQEEIDETLPNK	Light	476.9	701.4
Cyp3a41	LQEEIDETLPNK	Light	476.9	572.3
Cyp3a41	LQEEIDETLPNK	Light	476.9	120.1
BSA	LVNELTEFAK	Light	582.3	708.4
BSA	LVNELTEFAK	Light	582.3	951.5
BSA	AEFVEVTK	Light	461.7	722.4
BSA	AEFVEVTK	Light	461.7	347.2
BSA	AEFVEVTK	Heavy	465.8	859.5
BSA	AEFVEVTK	Heavy	465.8	730.4
BSA	AEFVEVTK	Heavy	465.8	583.4
BSA	AEFVEVTK	Heavy	465.8	484.3
Abcc3	HIFDQVIGPEGVLAGK	Light	840.5	1429.8
Abcc3	HIFDQVIGPEGVLAGK	Light	840.5	1282.7

Abcc3	HIFDQVIGPEGVLAGK	Heavy	844.5	1437.8
Abcc3	HIFDQVIGPEGVLAGK	Heavy	844.5	1290.7
Abcc3	HIFDQVIGPEGVLAGK	Heavy	844.5	1175.7
Abcc3	HIFDQVIGPEGVLAGK	Heavy	844.5	948.6
Abcc3	HIFDQVIGPEGVLAGK	Heavy	844.5	778.5
Abcb11	LSTALSGLLLGFYR	Light	504.3	655.4
Abcb11	LSTALSGLLLGFYR	Light	504.3	699.3
Abcb11	LSTALSGLLLGFYR	Light	504.3	605.4
Abcb11	FYDPCEGMVTLDGHDIR	Light	507.0	825.4
Abcb11	FYDPCEGMVTLDGHDIR	Light	507.0	712.3
Abcb11	FYDPCEGMVTLDGHDIR	Light	507.0	597.3
Abcg2	GEKPVIENLSEFYINSAIYGETK	Light	867.8	982.5
Abcg2	GEKPVIENLSEFYINSAIYGETK	Light	867.8	989.5
Mdr1a	ATVSASHIIR	Light	527.8	983.6
Mdr1a	ATVSASHIIR	Light	527.8	783.4
Mdr1b	GIYFSMVQAGAK	Light	636.3	791.4
Mdr1b	GIYFSMVQAGAK	Light	636.3	704.4
Slco1a1	YLEQQYGK	Light	514.8	623.3
Slco1a1	YLEQQYGK	Light	514.8	662.3
Slco1a1	YLEQQYGK	Heavy	518.8	873.5
Slco1a1	YLEQQYGK	Heavy	518.8	631.3
Slco1a1	YLEQQYGK	Heavy	518.8	662.3
Slc22a2	YEVDWNQSTLDCVDPLSSLAANR	Light	885.1	1043.5
Slc22a2	YEVDWNQSTLDCVDPLSSLAANR	Light	885.1	1131.5
Slc22a2	YEVDWNQSTLDCVDPLSSLAANR	Heavy	889.1	1043.5
Slc22a2	YEVDWNQSTLDCVDPLSSLAANR	Heavy	889.1	928.5
Slc22a2	LNPSFLDLVR	Light	587.3	946.5
Slc22a2	LNPSFLDLVR	Light	587.3	473.8
Slc22a2	LNPSFLDLVR	Heavy	592.3	956.5
Slc22a2	LNPSFLDLVR	Heavy	592.3	859.5
Slc22a2	LNPSFLDLVR	Heavy	592.3	772.4
Slc22a2	LNPSFLDLVR	Heavy	592.3	625.3
Slc22a2	LNPSFLDLVR	Heavy	592.3	478.8
Slc22a7	WLLLAATLPCVPGIISIWWVPESAR	Light	950.2	1343.7
Slc22a7	WLLLAATLPCVPGIISIWWVPESAR	Light	950.2	1230.6
Slco1a4	MYDINSFR	Light	349.2	409.2
Slco1a4	MYDINSFR	Light	349.2	457.7
Slco1a4	MYDINSFR	Light	349.2	376.2

Supplemental Table S2. Pregnancy and microbiome alter the mRNA expression of DMETs in female C57BL/6 livers. This list of genes was generated by comparing mRNA expression in groups between CVP and CVNP, GFP and GFNP, GFNP and CVNP, and GFP and CVP.

Gene Symbol	CVP vs. CVNP		GFP vs. GFNP		GFNP vs. CVNP		GFP vs. CVP	
	Fold Change	*FDR*	Fold Change	*FDR*	Fold Change	*FDR*	Fold Change	*FDR*
Cyp11a1	1.0	1.000	0.4	0.505	1.6	1.000	0.6	0.968
Cyp11b1	1.0	1.000	0.4	0.628	2.8	1.000	1.0	1.000
Cyp17a1	1.7	0.280	2.9	0.010	0.9	1.000	1.6	0.704
Cyp1a1	0.4	0.088	0.7	0.570	1.0	1.000	1.8	0.635
Cyp1a2	0.6	0.322	0.8	0.594	1.0	1.000	1.2	0.930
Cyp1b1	1.1	0.959	1.9	0.462	1.0	1.000	1.7	0.859
Cyp20a1	0.9	0.702	0.9	0.738	0.9	1.000	0.9	0.941
Cyp21a1	2.5	0.729	0.7	0.896	2.7	1.000	0.8	1.000
Cyp21a2-ps	0.7	0.797	0.9	0.932	0.8	1.000	1.0	1.000
Cyp24a1	1.0	1.000	1.0	1.000	1.0	1.000	1.0	1.000
Cyp26a1	3.2	0.076	4.2	0.020	0.9	1.000	1.1	0.996
Cyp26b1	0.0	<0.001	0.1	<0.001	1.9	0.982	5.0	0.289
Cyp26c1	0.8	0.920	0.7	0.814	0.8	1.000	0.7	0.969
Cyp27a1	0.5	0.077	0.6	0.121	0.7	1.000	0.8	0.857
Cyp2a12	1.0	0.975	1.3	0.641	1.0	1.000	1.4	0.824
Cyp2a21-ps	1.6	0.693	1.9	0.484	1.1	1.000	1.3	0.965
Cyp2a22	0.7	0.466	0.7	0.531	1.8	0.811	2.0	0.467
Cyp2a4	2.2	0.052	1.5	0.323	0.7	1.000	0.5	0.413
Cyp2a5	0.6	0.381	0.6	0.436	1.1	1.000	1.2	0.985
Cyp2ab1	0.5	0.709	0.6	0.813	1.2	1.000	1.7	0.969
Cyp2b10	1.2	0.828	0.8	0.837	1.0	1.000	0.6	0.840
Cyp2b13	0.1	<0.001	0.3	<0.001	1.2	1.000	5.3	<0.001
Cyp2b9	0.6	0.136	1.0	0.992	0.8	1.000	1.3	0.799
Cyp2c23	0.7	0.504	0.9	0.874	1.1	1.000	1.4	0.768
Cyp2c29	0.7	0.261	0.7	0.241	1.4	0.953	1.4	0.639
Cyp2c37	0.3	0.002	0.6	0.152	1.0	1.000	1.8	0.401
Cyp2c38	0.4	0.007	1.0	0.965	1.3	1.000	3.0	0.013
Cyp2c39	1.0	0.983	2.4	0.022	1.1	1.000	2.7	0.154
Cyp2c40	0.6	0.141	0.9	0.900	0.8	1.000	1.2	0.902
Cyp2c50	0.2	<0.001	0.5	0.001	1.0	1.000	2.0	0.066
Cyp2c54	0.4	0.001	0.8	0.561	1.0	1.000	2.2	0.074
Cyp2c55	0.5	0.216	0.1	<0.001	2.8	0.319	0.8	0.974
Cyp2c67	0.4	0.012	0.6	0.279	1.4	1.000	2.3	0.238
Cyp2c68	0.7	0.527	1.1	0.930	0.9	1.000	1.3	0.841
Cyp2c69	1.0	0.998	2.6	0.020	0.6	0.982	1.6	0.708
Cyp2c70	1.9	0.317	2.3	0.162	0.9	1.000	1.0	1.000

Cyp2d10	0.8	0.540	1.2	0.566	0.9	1.000	1.4	0.729
Cyp2d12	0.9	0.965	0.5	0.204	1.4	1.000	0.8	0.912
Cyp2d22	0.7	0.249	0.7	0.250	1.2	1.000	1.2	0.884
Cyp2d26	0.8	0.658	1.2	0.711	1.0	1.000	1.5	0.689
Cyp2d34	1.0	0.993	0.7	0.641	1.3	1.000	1.0	1.000
Cyp2d35-ps	1.6	0.742	0.9	0.934	2.2	1.000	1.2	0.995
Cyp2d36-ps	2.1	0.280	2.3	0.175	1.0	1.000	1.1	1.000
Cyp2d37-ps	1.6	0.342	1.2	0.754	1.0	1.000	0.8	0.898
Cyp2d38-ps	2.2	0.088	1.8	0.241	1.1	1.000	0.9	0.977
Cyp2d40	3.9	<0.001	5.4	<0.001	0.7	1.000	1.0	1.000
Cyp2d41-ps	1.2	0.831	0.9	0.907	1.0	1.000	0.7	0.904
Cyp2d9	0.3	0.025	0.2	0.002	1.8	1.000	1.1	1.000
Cyp2e1	0.4	0.141	0.7	0.474	1.1	1.000	1.6	0.799
Cyp2f2	0.6	0.182	0.8	0.507	0.7	1.000	0.9	0.977
Cyp2g1	2.8	0.047	3.6	0.010	0.6	1.000	0.8	0.964
Cyp2j5	0.8	0.627	0.9	0.901	1.0	1.000	1.1	0.985
Cyp2j6	0.8	0.543	1.1	0.808	0.9	1.000	1.3	0.774
Cyp2j9	0.4	0.153	0.4	0.103	0.8	1.000	0.7	0.894
Cyp2r1	1.0	0.962	1.2	0.622	0.6	0.439	0.7	0.722
Cyp2s1	0.3	0.222	4.5	0.072	0.5	1.000	7.1	0.238
Cyp2u1	0.8	0.720	0.9	0.902	0.7	1.000	0.8	0.869
Cyp39a1	0.4	0.031	0.3	0.017	1.0	1.000	0.9	0.999
Cyp3a11	0.6	0.290	0.3	0.005	0.6	0.953	0.3	0.131
Cyp3a13	1.0	1.000	1.6	0.478	0.9	1.000	1.5	0.874
Cyp3a16	20.6	0.001	128.0	<0.001	0.2	0.578	1.4	0.953
Cyp3a25	0.7	0.235	0.8	0.374	0.7	0.873	0.8	0.762
Cyp3a41a	4.8	0.047	10.8	0.002	0.6	1.000	1.4	0.941
Cyp3a41b	74.2	<0.001	181.7	<0.001	0.5	1.000	1.3	0.989
Cyp3a44	14.3	<0.001	30.5	<0.001	0.8	1.000	1.7	0.816
Cyp3a59	1.4	0.352	1.1	0.802	0.7	0.953	0.6	0.321
Cyp3a63-ps	5.1	0.047	8.5	0.007	0.9	1.000	1.5	0.926
Cyp46a1	0.6	0.547	0.4	0.117	1.0	1.000	0.6	0.816
Cyp4a10	0.7	0.494	0.8	0.721	1.2	1.000	1.4	0.782
Cyp4a12a	1.0	1.000	0.2	0.239	1.5	1.000	0.3	0.756
Cyp4a14	0.4	0.021	0.3	0.002	1.2	1.000	0.9	0.958
Cyp4a31	4.6	<0.001	5.3	<0.001	1.1	1.000	1.3	0.909
Cyp4a32	0.6	0.389	1.0	0.999	1.0	1.000	1.5	0.725
Cyp4b1	0.8	0.655	0.6	0.378	0.9	1.000	0.8	0.909
Cyp4f13	0.6	0.042	0.8	0.329	0.8	1.000	1.1	0.987
Cyp4f14	0.8	0.624	1.0	0.925	0.9	1.000	1.1	0.977
Cyp4f15	0.5	0.033	0.5	0.052	1.0	1.000	1.1	0.976
Cyp4f16	1.0	0.976	0.7	0.364	0.9	1.000	0.6	0.553
Cyp4f17	0.9	0.949	1.0	0.971	0.8	1.000	0.8	0.924
Cyp4f18	1.0	1.000	0.4	0.364	0.9	1.000	0.4	0.656
Cyp4v3	0.6	0.095	0.9	0.697	1.0	1.000	1.4	0.703
Cyp4x1	1.2	0.887	1.4	0.747	0.9	1.000	1.1	1.000
Cyp51	0.7	0.477	1.4	0.486	0.5	0.359	0.9	0.999
Cyp7a1	1.1	0.883	1.4	0.614	0.9	1.000	1.1	0.993

Cyp7b1	1.3	0.732	2.2	0.064	0.6	1.000	1.1	0.981
Cyp8b1	1.4	0.751	2.9	0.123	0.2	0.145	0.4	0.546
Ugt1a1	0.8	0.784	1.2	0.770	1.0	1.000	1.5	0.828
Ugt1a10	0.9	0.977	9.6	0.004	0.2	0.439	2.4	0.689
Ugt1a2	0.4	0.681	0.8	0.920	0.7	1.000	1.3	1.000
Ugt1a5	2.6	0.062	3.3	0.016	0.5	0.949	0.7	0.833
Ugt1a6a	1.3	0.698	1.3	0.674	0.9	1.000	0.9	0.976
Ugt1a6b	0.3	0.042	0.3	0.023	1.0	1.000	0.9	0.999
Ugt1a7c	0.8	0.893	1.8	0.449	0.8	1.000	1.8	0.799
Ugt1a8	0.3	0.496	0.2	0.230	2.9	1.000	1.6	0.974
Ugt1a9	0.9	0.970	1.8	0.237	1.1	1.000	2.1	0.440
Ugt2a2	0.7	0.836	0.9	0.938	0.9	1.000	1.1	1.000
Ugt2a3	0.8	0.364	0.9	0.869	0.9	1.000	1.1	0.943
Ugt2b1	0.8	0.435	0.8	0.360	1.2	1.000	1.1	0.924
Ugt2b34	0.8	0.709	0.9	0.884	0.9	1.000	1.1	1.000
Ugt2b35	1.3	0.522	1.2	0.648	0.9	1.000	0.9	0.954
Ugt2b36	1.2	0.815	1.5	0.447	1.1	1.000	1.4	0.833
Ugt2b37	0.7	0.800	0.8	0.876	0.5	1.000	0.5	0.797
Ugt2b38	0.2	0.139	0.0	0.013	0.5	1.000	0.1	0.408
Ugt2b5	0.9	0.841	0.9	0.799	1.1	1.000	1.0	1.000
Ugt3a1	0.7	0.510	1.0	0.973	1.0	1.000	1.4	0.809
Ugt3a2	0.9	0.957	1.4	0.579	0.9	1.000	1.3	0.915
Ugt8a	0.9	0.968	1.0	0.998	2.5	1.000	2.7	0.764
Sult1a1	0.9	0.863	1.1	0.936	1.3	1.000	1.6	0.769
Sult1b1	1.2	0.761	1.4	0.428	1.3	1.000	1.5	0.690
Sult1c2	1.0	0.981	2.1	0.067	0.9	1.000	1.9	0.467
Sult1d1	0.3	0.277	0.4	0.342	1.4	1.000	1.7	0.916
Sult1e1	0.2	0.417	0.2	0.255	9.9	0.411	13.6	0.454
Sult2a1	1.1	0.966	1.5	0.801	0.4	1.000	0.6	0.938
Sult2a2	0.6	0.750	0.5	0.557	1.0	1.000	0.8	0.989
Sult2a3	0.5	0.697	0.2	0.239	1.7	1.000	0.6	0.975
Sult2a5	0.2	0.122	0.2	0.066	1.0	1.000	0.7	0.978
Sult2a7	0.2	0.061	0.2	0.031	0.9	1.000	0.7	0.964
Sult2a8	1.1	0.934	1.5	0.548	0.9	1.000	1.2	0.982
Sult2b1	3.9	0.440	2.3	0.415	8.6	0.555	5.0	0.412
Sult3a1	3.6	0.056	12.9	<0.001	0.3	0.359	1.0	1.000
Sult3a2	53.9	<0.001	226.7	<0.001	0.2	0.605	0.9	1.000
Sult4a1	287.7	<0.001	3.5	0.333	5.2	1.000	0.1	0.129
Sult5a1	0.7	0.632	0.5	0.291	0.2	0.134	0.1	0.081
Gsta1	7.4	0.160	0.1	0.086	9.5	0.564	0.1	0.444
Gsta2	0.6	0.215	0.4	0.033	2.0	0.605	1.5	0.782
Gsta3	0.9	0.942	1.0	0.964	0.9	1.000	1.0	1.000
Gsta4	0.5	0.181	0.5	0.098	1.2	1.000	1.1	0.989
Gstcd	1.6	0.311	1.0	0.966	1.0	1.000	0.7	0.763
Gstk1	0.5	0.005	0.5	0.018	1.1	1.000	1.2	0.901
Gstm1	1.0	0.984	0.7	0.498	1.1	1.000	0.7	0.838
Gstm2	1.8	0.041	1.4	0.248	1.4	1.000	1.1	0.984
Gstm3	3.1	0.044	0.6	0.456	2.5	0.564	0.5	0.625

Gstm4	1.1	0.800	0.8	0.503	0.8	1.000	0.5	0.289
Gstm5	1.1	0.948	1.2	0.635	0.7	1.000	0.8	0.884
Gstm6	0.9	0.908	0.9	0.892	1.3	1.000	1.3	0.922
Gstm7	0.8	0.809	0.8	0.797	1.0	1.000	1.1	1.000
Gsto1	0.8	0.496	1.1	0.882	0.9	1.000	1.3	0.822
Gsto2	1.0	1.000	1.1	0.938	0.5	1.000	0.6	0.817
Gstp1	3.4	0.002	2.2	0.039	0.9	1.000	0.6	0.635
Gstp2	5.9	0.016	1.8	0.505	0.9	1.000	0.3	0.386
Gstp3	1.9	0.190	1.4	0.516	1.1	1.000	0.8	0.951
Gstt1	0.4	0.005	0.4	0.017	0.8	1.000	0.9	0.976
Gstt2	0.6	0.182	0.7	0.380	0.9	1.000	1.0	1.000
Gstt3	1.5	0.177	2.0	0.005	0.8	1.000	1.1	0.951
Abca1	1.3	0.494	1.4	0.365	1.0	1.000	1.0	1.000
Abca13	10.9	0.144	0.2	0.365	5.3	1.000	0.1	0.451
Abca17	103.3	<0.001	1779.0	<0.001	0.1	0.757	1.2	0.989
Abca2	1.2	0.873	1.4	0.579	0.8	1.000	1.0	1.000
Abca3	1.1	0.896	1.8	0.112	0.6	0.873	1.0	1.000
Abca4	2.0	0.383	0.7	0.702	1.1	1.000	0.4	0.526
Abca5	2.0	0.025	3.3	<0.001	0.8	1.000	1.3	0.768
Abca6	1.1	0.951	1.4	0.512	1.0	1.000	1.3	0.859
Abca7	0.9	0.851	0.5	0.006	1.1	1.000	0.6	0.298
Abca8a	0.7	0.493	0.5	0.158	1.4	1.000	1.0	1.000
Abca8b	1.2	0.650	1.4	0.308	0.9	1.000	1.1	0.999
Abca9	1.5	0.328	1.3	0.495	1.1	1.000	1.0	1.000
Abcb10	0.9	0.586	1.0	0.964	0.8	0.817	0.9	0.856
Abcb11	0.7	0.438	0.9	0.794	0.9	1.000	1.2	0.950
Abcb1a	0.6	0.333	0.7	0.438	0.9	1.000	1.0	1.000
Abcb1b	1.7	0.553	1.8	0.465	1.2	1.000	1.2	0.986
Abcb4	0.6	0.214	0.7	0.424	0.9	1.000	1.0	1.000
Abcb6	0.6	0.019	0.7	0.129	1.0	1.000	1.2	0.830
Abcb7	1.0	0.939	1.3	0.387	0.8	1.000	1.0	1.000
Abcb8	0.6	0.057	0.6	0.091	0.9	1.000	1.0	1.000
Abcb9	1.2	0.650	1.0	0.973	1.2	1.000	1.0	1.000
Abcc1	1.6	0.344	0.9	0.890	1.6	0.978	0.9	0.998
Abcc10	0.8	0.667	0.7	0.303	1.1	1.000	0.9	0.985
Abcc12	0.8	0.840	0.5	0.456	0.9	1.000	0.6	0.876
Abcc2	0.8	0.803	0.8	0.768	1.0	1.000	1.0	1.000
Abcc3	0.3	0.025	0.1	<0.001	1.0	1.000	0.5	0.613
Abcc4	1.4	0.698	1.0	0.977	1.5	1.000	1.2	0.978
Abcc5	1.4	0.635	0.9	0.863	1.1	1.000	0.7	0.816
Abcc6	0.6	0.364	0.7	0.395	1.1	1.000	1.2	0.955
Abcc8	0.7	0.928	1.4	0.901	1.3	1.000	2.5	0.914
Abcc9	1.0	0.979	1.2	0.667	0.9	1.000	1.2	0.941
Abcd1	1.0	0.959	1.2	0.426	0.8	1.000	1.0	1.000
Abcd2	1.1	0.947	1.4	0.650	0.7	1.000	0.9	1.000
Abcd3	0.8	0.328	0.8	0.538	0.8	0.877	0.8	0.801
Abcd4	0.8	0.406	0.6	0.078	1.2	1.000	1.0	1.000
Abce1	1.1	0.715	1.2	0.477	1.0	1.000	1.0	1.000

Abcf1	0.9	0.652	1.0	0.983	0.9	1.000	1.0	1.000
Abcf2	0.9	0.817	1.0	0.893	0.9	1.000	1.0	0.997
Abcf3	0.7	0.151	0.8	0.377	0.8	1.000	0.9	0.988
Abcg1	1.3	0.734	0.9	0.880	0.9	1.000	0.7	0.773
Abcg2	1.1	0.762	1.1	0.800	0.9	1.000	0.9	0.969
Abcg3	1.5	0.459	1.0	0.975	0.9	1.000	0.6	0.678
Abcg4	3.2	0.693	0.4	0.581	9.4	0.917	1.1	1.000
Abcg5	0.4	0.003	0.4	0.009	1.3	1.000	1.4	0.696
Abcg8	0.5	0.008	0.6	0.061	1.2	1.000	1.4	0.613
Slc10a1	0.4	0.020	0.5	0.045	0.8	1.000	1.0	1.000
Slc10a2	0.9	0.947	1.2	0.693	1.0	1.000	1.3	0.878
Slc10a3	0.9	0.681	1.0	1.000	0.8	1.000	1.0	1.000
Slc10a5	1.2	0.821	1.1	0.915	0.9	1.000	0.8	0.972
Slc10a6	0.2	0.249	0.6	0.650	1.0	1.000	2.4	0.830
Slc10a7	1.0	0.978	0.8	0.495	1.3	1.000	1.0	1.000
Slc11a1	1.5	0.567	1.2	0.836	0.7	1.000	0.6	0.689
Slc11a2	1.4	0.314	0.9	0.855	1.0	1.000	0.7	0.514
Slc12a2	0.9	0.888	1.1	0.725	1.3	0.962	1.5	0.314
Slc12a3	0.8	0.900	0.7	0.697	1.7	1.000	1.4	0.945
Slc12a4	0.9	0.914	0.8	0.408	1.0	1.000	0.8	0.820
Slc12a5	0.7	0.792	0.5	0.446	0.9	1.000	0.7	0.916
Slc12a6	1.1	0.789	0.9	0.662	1.1	1.000	0.9	0.901
Slc12a7	0.6	0.153	0.6	0.066	0.8	1.000	0.8	0.768
Slc12a8	1.2	0.909	1.0	1.000	1.3	1.000	1.1	1.000
Slc12a9	0.7	0.472	0.9	0.883	1.1	1.000	1.4	0.768
Slc13a2	1.4	0.779	2.6	0.158	0.5	1.000	1.0	1.000
Slc13a3	0.4	0.068	0.5	0.244	0.7	1.000	0.9	0.997
Slc13a4	0.3	0.250	0.6	0.672	0.6	1.000	1.2	1.000
Slc13a5	0.4	0.216	0.2	0.070	0.8	1.000	0.5	0.788
Slc14a1	1.4	0.878	6.5	0.066	0.5	1.000	2.5	0.768
Slc14a2	1.4	0.947	3.9	0.479	0.2	1.000	0.5	0.941
Slc15a1	1.2	0.915	0.9	0.938	1.2	1.000	0.8	0.995
Slc15a2	1.5	0.736	0.3	0.229	2.3	1.000	0.5	0.809
Slc15a3	1.8	0.316	1.0	0.994	0.9	1.000	0.5	0.550
Slc15a4	0.9	0.761	0.6	0.072	1.2	1.000	0.8	0.874
Slc15a5	0.5	0.404	0.7	0.786	0.5	1.000	0.8	0.986
Slc16a1	2.0	0.018	1.6	0.142	0.9	1.000	0.7	0.625
Slc16a10	0.5	0.051	0.7	0.283	1.1	1.000	1.5	0.635
Slc16a11	0.9	0.897	1.0	0.995	0.6	0.953	0.7	0.768
Slc16a12	0.5	0.088	0.7	0.401	0.9	1.000	1.2	0.945
Slc16a13	2.2	0.136	1.6	0.408	0.5	0.940	0.4	0.347
Slc16a2	0.7	0.628	1.0	0.974	0.8	1.000	1.1	0.999
Slc16a3	3.3	0.107	1.1	0.959	2.2	1.000	0.7	0.945
Slc16a4	0.9	0.900	0.6	0.341	1.2	1.000	0.8	0.946
Slc16a5	1.0	0.978	1.2	0.781	1.1	1.000	1.2	0.917
Slc16a6	16.2	<0.001	14.4	<0.001	1.1	1.000	1.0	1.000
Slc16a7	0.7	0.458	0.8	0.633	1.1	1.000	1.2	0.854
Slc16a9	1.1	0.908	1.2	0.752	0.9	1.000	1.0	1.000

Slc17a1	0.7	0.687	0.6	0.507	1.0	1.000	0.9	0.993
Slc17a2	0.3	0.057	0.2	0.009	0.9	1.000	0.6	0.816
Slc17a3	0.7	0.336	0.9	0.685	0.9	1.000	1.1	0.987
Slc17a4	1.7	0.415	1.5	0.493	1.3	1.000	1.1	0.996
Slc17a5	0.9	0.930	1.1	0.872	1.0	1.000	1.2	0.930
Slc17a8	1.9	0.375	0.6	0.519	1.0	1.000	0.4	0.383
Slc17a9	1.4	0.593	1.2	0.757	0.9	1.000	0.8	0.950
Slc18a1	1.4	0.575	1.1	0.845	1.3	1.000	1.1	1.000
Slc18a2	1.0	0.977	1.0	0.984	1.0	1.000	0.9	1.000
Slc18b1	0.9	0.915	1.1	0.939	0.8	1.000	1.0	1.000
Slc19a1	0.6	0.178	0.8	0.557	1.1	1.000	1.4	0.761
Slc19a2	0.7	0.156	0.7	0.198	0.9	1.000	0.9	0.996
Slc19a3	0.4	0.650	3.7	0.483	0.4	1.000	3.7	0.816
Slc1a1	1.2	0.900	1.4	0.800	0.9	1.000	1.1	1.000
Slc1a2	1.5	0.699	2.1	0.313	1.4	1.000	2.0	0.756
Slc1a3	1.5	0.825	0.6	0.660	1.4	1.000	0.5	0.895
Slc1a4	1.8	0.140	1.0	1.000	1.1	1.000	0.6	0.533
Slc1a5	0.7	0.616	0.5	0.141	1.3	1.000	0.9	0.987
Slc1a6	0.5	0.714	0.3	0.475	0.9	1.000	0.5	0.951
Slc20a1	0.6	0.059	0.7	0.141	1.1	1.000	1.2	0.832
Slc20a2	1.4	0.188	1.5	0.113	1.0	1.000	1.0	1.000
Slc22a1	0.8	0.595	0.9	0.847	1.0	1.000	1.2	0.953
Slc22a13b-ps	0.4	0.487	0.5	0.528	0.9	1.000	1.0	1.000
Slc22a15	0.5	0.008	0.5	0.028	1.1	1.000	1.2	0.869
Slc22a17	1.0	0.990	0.9	0.906	0.9	1.000	0.8	0.975
Slc22a18	0.7	0.294	0.9	0.810	1.0	1.000	1.4	0.768
Slc22a2	260.5	<0.001	561.5	<0.001	0.4	1.000	0.8	0.984
Slc22a21	0.3	0.083	1.9	0.337	0.5	0.889	2.8	0.433
Slc22a23	1.4	0.270	1.6	0.080	1.0	1.000	1.1	0.967
Slc22a26	0.6	0.352	1.0	1.000	0.7	1.000	1.1	0.985
Slc22a27	0.5	0.126	0.5	0.101	0.6	0.992	0.6	0.665
Slc22a28	2.9	0.100	2.8	0.102	1.3	1.000	1.2	0.976
Slc22a29	0.2	0.075	0.2	0.072	0.9	1.000	0.9	1.000
Slc22a3	0.9	0.930	0.9	0.890	1.6	1.000	1.6	0.767
Slc22a30	1.1	0.852	1.3	0.317	0.9	1.000	1.1	0.996
Slc22a4	0.5	0.194	0.8	0.825	0.8	1.000	1.3	0.917
Slc22a5	0.8	0.566	0.9	0.709	1.0	1.000	1.1	0.951
Slc22a6	0.4	0.654	0.2	0.449	1.7	1.000	1.0	1.000
Slc22a7	1.3	0.713	3.1	0.004	0.5	0.437	1.1	0.975
Slc22a8	0.3	0.567	0.0	0.108	1.9	1.000	0.3	0.890
Slc23a1	1.0	1.000	1.2	0.682	0.7	1.000	0.9	0.969
Slc23a2	0.6	0.194	0.7	0.336	0.9	1.000	1.0	1.000
Slc23a3	1.1	0.975	0.6	0.764	2.7	1.000	1.5	0.974
Slc23a4	1.6	0.654	0.4	0.269	1.7	1.000	0.4	0.681
Slc24a3	9.5	<0.001	6.6	<0.001	1.3	1.000	0.9	0.969
Slc24a5	0.7	0.690	0.9	0.920	0.6	1.000	0.8	0.962
Slc25a1	0.7	0.153	0.8	0.343	0.7	0.811	0.8	0.786
Slc25a10	0.7	0.080	0.8	0.336	0.9	1.000	1.0	1.000

Slc25a11	0.7	0.016	0.7	0.029	1.0	1.000	1.0	1.000
Slc25a12	1.0	0.989	0.9	0.845	0.9	1.000	0.8	0.901
Slc25a13	0.7	0.220	0.8	0.529	1.0	1.000	1.2	0.880
Slc25a14	1.1	0.944	0.7	0.420	1.1	1.000	0.7	0.768
Slc25a15	0.8	0.688	0.9	0.833	1.3	1.000	1.4	0.713
Slc25a16	1.0	0.995	1.1	0.796	1.1	1.000	1.2	0.857
Slc25a17	1.0	0.943	0.9	0.500	0.9	1.000	0.8	0.654
Slc25a18	1.4	0.820	0.4	0.257	2.5	0.940	0.7	0.945
Slc25a19	0.8	0.291	0.6	0.015	1.1	1.000	0.9	0.857
Slc25a20	1.0	0.975	1.0	0.908	1.0	1.000	0.9	0.946
Slc25a21	0.7	0.286	0.6	0.182	1.0	1.000	0.9	0.978
Slc25a22	1.0	0.990	0.7	0.221	1.4	0.757	1.0	0.999
Slc25a23	0.7	0.245	1.0	1.000	0.8	1.000	1.2	0.924
Slc25a24	1.1	0.862	1.2	0.703	1.1	1.000	1.2	0.945
Slc25a25	1.1	0.885	1.1	0.861	1.6	1.000	1.6	0.701
Slc25a26	1.1	0.849	1.1	0.732	0.9	1.000	1.0	1.000
Slc25a27	0.8	0.836	0.4	0.229	1.8	1.000	1.0	1.000
Slc25a28	0.6	0.007	0.7	0.024	0.9	1.000	0.9	0.953
Slc25a29	0.8	0.585	1.0	0.977	1.0	1.000	1.3	0.816
Slc25a3	0.8	0.504	0.8	0.231	1.0	1.000	0.9	0.947
Slc25a30	1.7	0.128	2.2	0.010	0.5	0.315	0.7	0.639
Slc25a31	0.4	0.521	0.4	0.589	1.0	1.000	1.2	1.000
Slc25a32	0.8	0.457	0.8	0.381	1.3	1.000	1.3	0.722
Slc25a33	1.4	0.250	1.5	0.147	0.9	1.000	0.9	0.999
Slc25a34	1.0	1.000	1.1	0.936	1.0	1.000	1.1	0.998
Slc25a35	0.7	0.608	0.9	0.890	0.9	1.000	1.2	0.985
Slc25a36	1.2	0.683	1.5	0.299	1.1	1.000	1.3	0.837
Slc25a37	0.5	0.012	0.6	0.027	0.9	1.000	1.0	1.000
Slc25a38	0.9	0.631	0.9	0.609	1.1	1.000	1.1	0.869
Slc25a39	0.7	0.070	0.8	0.298	0.9	1.000	1.0	0.994
Slc25a4	1.0	0.948	0.8	0.628	1.0	1.000	0.8	0.799
Slc25a40	1.1	0.943	0.9	0.833	0.9	1.000	0.8	0.854
Slc25a42	0.8	0.396	0.7	0.320	0.9	1.000	0.9	0.912
Slc25a43	0.8	0.876	0.5	0.329	0.8	1.000	0.4	0.625
Slc25a44	1.1	0.895	1.1	0.701	1.0	1.000	1.0	1.000
Slc25a45	0.9	0.916	1.0	0.983	0.8	1.000	0.9	0.913
Slc25a46	0.9	0.787	1.1	0.728	1.0	1.000	1.2	0.800
Slc25a47	0.9	0.746	0.9	0.861	1.2	1.000	1.3	0.817
Slc25a48	0.6	0.189	0.7	0.387	1.2	1.000	1.4	0.753
Slc25a5	0.8	0.388	0.8	0.271	0.9	1.000	0.9	0.886
Slc25a51	0.6	0.026	0.3	<0.001	1.8	0.181	1.1	0.951
Slc25a53	1.2	0.893	0.7	0.703	1.4	1.000	0.8	0.979
Slc26a1	0.8	0.793	1.1	0.903	0.9	1.000	1.1	0.988
Slc26a10	0.4	0.079	0.3	0.006	1.3	1.000	0.9	0.988
Slc26a11	0.9	0.864	0.7	0.206	1.1	1.000	0.8	0.833
Slc26a2	1.2	0.580	1.0	0.994	1.1	1.000	0.9	0.961
Slc26a3	1.4	0.899	7.5	0.104	0.9	1.000	4.8	0.601
Slc26a4	0.1	0.009	0.2	0.016	1.2	1.000	1.6	0.947

Slc26a6	1.1	0.955	1.9	0.062	0.5	0.536	1.0	1.000
Slc26a7	0.1	0.150	3.3	0.516	0.1	0.615	3.3	0.838
Slc26a8	0.4	0.450	0.7	0.800	0.9	1.000	1.6	0.950
Slc27a1	0.7	0.210	0.6	0.018	1.3	1.000	1.0	1.000
Slc27a2	0.7	0.547	0.7	0.530	1.0	1.000	1.0	1.000
Slc27a3	1.9	0.334	0.8	0.754	2.7	0.438	1.1	0.998
Slc27a4	1.0	0.934	1.2	0.517	0.9	1.000	1.1	0.945
Slc27a5	0.6	0.242	0.9	0.837	0.8	1.000	1.2	0.943
Slc27a6	1.8	0.632	0.8	0.920	1.5	1.000	0.7	0.951
Slc28a1	0.4	0.347	0.6	0.572	0.8	1.000	1.2	1.000
Slc28a2	1.3	0.804	1.3	0.788	1.0	1.000	1.0	1.000
Slc28a3	0.4	0.702	0.7	0.837	4.2	0.875	7.3	0.597
Slc29a1	0.7	0.137	0.7	0.166	1.1	1.000	1.2	0.888
Slc29a2	0.6	0.285	0.4	0.075	1.0	1.000	0.7	0.888
Slc29a3	1.2	0.806	1.5	0.321	0.8	1.000	1.1	0.993
Slc29a4	0.9	0.996	0.2	0.287	2.8	1.000	0.7	0.983
Slc2a1	1.0	0.990	0.9	0.940	0.9	1.000	0.8	0.946
Slc2a10	0.9	0.977	1.4	0.800	0.8	1.000	1.2	0.999
Slc2a12	0.7	0.737	3.2	0.106	0.4	0.761	1.6	0.847
Slc2a13	1.3	0.817	0.6	0.495	1.9	0.995	1.0	1.000
Slc2a2	0.5	0.233	0.6	0.438	1.1	1.000	1.4	0.911
Slc2a3	1.9	0.495	3.4	0.116	2.8	0.873	5.0	0.242
Slc2a4	0.3	0.257	0.4	0.296	2.0	1.000	2.3	0.739
Slc2a4rg-ps	0.6	0.453	0.4	0.071	1.2	1.000	0.8	0.914
Slc2a5	0.9	0.948	1.2	0.796	0.9	1.000	1.1	0.991
Slc2a6	4.4	0.144	0.6	0.668	1.7	1.000	0.2	0.478
Slc2a7	1.0	1.000	1.0	1.000	1.0	1.000	1.0	1.000
Slc2a8	1.0	0.919	1.0	0.970	0.9	1.000	1.0	0.998
Slc2a9	0.7	0.404	0.8	0.550	0.9	1.000	1.0	1.000
Slc30a1	1.3	0.505	1.6	0.051	1.0	1.000	1.3	0.799
Slc30a10	1.7	0.622	1.3	0.854	1.1	1.000	0.8	0.984
Slc30a2	2.0	0.661	2.1	0.775	0.3	1.000	0.3	0.747
Slc30a3	0.4	0.499	0.4	0.533	0.5	1.000	0.6	0.946
Slc30a4	1.4	0.351	1.4	0.333	1.1	1.000	1.1	0.985
Slc30a5	1.1	0.870	1.0	0.975	1.0	1.000	1.0	1.000
Slc30a6	1.2	0.552	1.2	0.454	1.0	1.000	1.0	1.000
Slc30a7	1.0	0.973	0.9	0.921	0.8	1.000	0.8	0.901
Slc30a9	0.8	0.245	0.8	0.181	1.0	1.000	1.0	1.000
Slc31a1	0.9	0.851	1.1	0.739	0.9	1.000	1.1	0.960
Slc31a2	1.1	0.797	1.1	0.751	0.9	1.000	0.9	0.971
Slc33a1	1.4	0.280	1.5	0.076	1.0	1.000	1.1	0.943
Slc34a2	2.6	0.176	2.0	0.403	0.6	1.000	0.5	0.694
Slc34a3	1.0	1.000	1.0	1.000	1.0	1.000	1.0	1.000
Slc35a1	0.9	0.827	1.1	0.578	0.8	0.999	1.0	1.000
Slc35a2	1.0	0.930	1.0	0.947	1.0	1.000	1.1	0.988
Slc35a3	1.0	0.937	1.1	0.709	1.0	1.000	1.1	0.978
Slc35a4	0.9	0.938	1.3	0.506	1.0	1.000	1.5	0.689
Slc35a5	1.1	0.800	1.0	1.000	1.1	1.000	1.0	1.000

Slc35b1	1.8	0.006	2.5	<0.001	1.0	1.000	1.3	0.617
Slc35b2	1.0	0.977	1.5	0.089	0.9	1.000	1.3	0.629
Slc35b3	1.1	0.771	1.3	0.272	0.8	1.000	1.0	0.996
Slc35b4	1.0	0.984	1.4	0.288	0.9	1.000	1.4	0.753
Slc35c1	1.3	0.254	1.6	0.029	0.9	1.000	1.1	0.953
Slc35c2	1.7	0.003	2.0	<0.001	0.9	1.000	1.0	1.000
Slc35d1	1.2	0.546	1.1	0.735	0.8	1.000	0.8	0.595
Slc35d2	1.2	0.542	1.5	0.131	0.8	1.000	1.0	1.000
Slc35d3	3.5	0.641	5.8	0.488	0.4	1.000	0.6	0.984
Slc35e1	1.1	0.628	1.0	0.919	1.1	1.000	1.0	0.997
Slc35e2	1.0	0.944	1.0	0.964	1.3	0.817	1.3	0.702
Slc35e3	0.8	0.483	0.7	0.158	0.9	1.000	0.8	0.745
Slc35e4	1.8	0.451	1.3	0.794	1.2	1.000	0.9	0.988
Slc35f1	1.8	0.798	0.8	0.937	1.7	1.000	0.7	0.994
Slc35f2	1.1	0.979	1.0	0.995	0.9	1.000	0.8	0.999
Slc35f3	1.0	1.000	2.3	0.532	0.8	1.000	1.8	0.917
Slc35f5	1.3	0.458	1.1	0.781	1.0	1.000	0.9	0.951
Slc35f6	1.0	0.942	1.1	0.876	1.0	1.000	1.1	0.971
Slc35g1	0.9	0.742	1.0	0.946	1.1	1.000	1.2	0.876
Slc35g2	0.7	0.754	0.7	0.684	1.6	1.000	1.5	0.865
Slc36a1	2.3	0.001	2.7	<0.001	0.9	1.000	1.0	1.000
Slc36a2	0.1	0.266	0.8	0.915	0.9	1.000	4.6	0.756
Slc36a4	1.1	0.901	1.2	0.598	0.9	1.000	1.0	1.000
Slc37a1	11.6	<0.001	6.2	<0.001	1.5	1.000	0.8	0.946
Slc37a2	1.2	0.832	0.7	0.424	0.8	1.000	0.5	0.350
Slc37a3	1.4	0.227	1.4	0.208	1.0	1.000	1.0	1.000
Slc37a4	0.5	0.094	0.6	0.135	1.3	1.000	1.4	0.809
Slc38a1	1.0	0.988	1.3	0.605	1.1	1.000	1.3	0.835
Slc38a10	1.3	0.351	1.6	0.062	0.8	1.000	1.0	1.000
Slc38a11	0.5	0.595	0.7	0.791	0.9	1.000	1.3	0.991
Slc38a2	1.1	0.704	1.3	0.202	1.4	0.322	1.6	0.107
Slc38a3	0.8	0.551	0.9	0.715	1.0	1.000	1.1	0.971
Slc38a4	0.3	<0.001	0.3	<0.001	1.1	1.000	1.2	0.951
Slc38a5	1.2	0.955	0.4	0.465	2.8	1.000	1.0	1.000
Slc38a6	0.9	0.914	0.9	0.751	1.1	1.000	1.0	1.000
Slc38a7	0.7	0.149	0.9	0.609	0.9	1.000	1.1	0.945
Slc38a8	1.2	0.967	0.9	0.958	3.3	1.000	2.5	0.865
Slc38a9	1.0	0.963	0.9	0.742	1.1	1.000	0.9	0.973
Slc39a1	1.0	0.998	1.2	0.507	0.9	1.000	1.1	0.965
Slc39a10	1.3	0.439	0.7	0.344	1.4	1.000	0.7	0.722
Slc39a11	1.4	0.180	2.0	<0.001	0.9	1.000	1.3	0.626
Slc39a13	1.1	0.728	1.1	0.853	1.0	1.000	1.0	1.000
Slc39a14	2.3	0.013	2.1	0.022	1.5	0.978	1.4	0.775
Slc39a2	0.6	0.522	0.5	0.208	1.1	1.000	0.9	0.988
Slc39a3	1.1	0.749	1.0	0.877	0.9	1.000	0.9	0.794
Slc39a4	0.9	0.817	0.7	0.358	0.8	1.000	0.6	0.603
Slc39a5	1.5	0.680	1.2	0.878	1.1	1.000	0.9	0.998
Slc39a6	1.0	0.990	1.0	1.000	1.3	1.000	1.3	0.843

Slc39a7	1.1	0.762	1.2	0.461	0.9	1.000	0.9	0.975
Slc39a8	1.0	0.996	1.1	0.817	1.0	1.000	1.2	0.949
Slc39a9	1.1	0.707	1.2	0.579	1.0	1.000	1.1	0.978
Slc3a1	1.0	1.000	1.8	0.469	0.7	1.000	1.2	0.985
Slc3a2	0.8	0.448	0.9	0.719	1.0	1.000	1.1	0.936
Slc40a1	1.5	0.292	1.6	0.180	0.7	1.000	0.8	0.837
Slc41a1	1.0	0.997	1.2	0.671	0.7	1.000	0.9	0.943
Slc41a2	30.2	<0.001	28.1	<0.001	1.1	1.000	1.0	1.000
Slc41a3	4.3	0.001	3.5	0.002	1.9	0.781	1.5	0.753
Slc43a1	2.6	0.037	3.1	0.010	1.1	1.000	1.3	0.934
Slc43a2	1.1	0.895	1.0	0.982	0.9	1.000	0.9	0.967
Slc43a3	0.8	0.493	0.8	0.334	1.0	1.000	0.9	0.962
Slc44a1	1.1	0.751	1.2	0.425	0.9	1.000	1.0	1.000
Slc44a2	0.9	0.721	0.8	0.477	1.0	1.000	0.9	0.943
Slc44a3	0.9	0.908	0.6	0.416	0.9	1.000	0.7	0.803
Slc44a4	0.6	0.844	2.6	0.389	1.6	1.000	6.9	0.404
Slc45a3	3.0	0.001	2.1	0.027	1.2	1.000	0.9	0.948
Slc45a4	1.2	0.706	1.4	0.343	0.7	1.000	0.8	0.912
Slc46a1	0.9	0.608	1.1	0.570	0.7	0.593	1.0	0.995
Slc46a3	0.5	0.090	0.9	0.866	0.7	1.000	1.4	0.844
Slc47a1	0.9	0.922	1.0	0.975	0.9	1.000	1.0	1.000
Slc48a1	1.1	0.749	1.0	1.000	1.0	1.000	0.9	0.914
Slc4a1	8.0	0.002	24.0	<0.001	0.9	1.000	2.6	0.415
Slc4a11	0.6	0.755	0.6	0.742	0.6	1.000	0.6	0.944
Slc4a1ap	0.8	0.268	0.7	0.074	1.0	1.000	0.9	0.869
Slc4a2	0.9	0.818	0.8	0.433	1.0	1.000	0.9	0.938
Slc4a3	0.6	0.469	0.9	0.856	0.9	1.000	1.3	0.930
Slc4a4	0.7	0.439	0.8	0.517	1.1	1.000	1.1	0.967
Slc4a5	1.3	0.926	0.3	0.436	2.9	1.000	0.6	0.984
Slc4a7	1.1	0.862	1.1	0.699	1.0	1.000	1.1	0.982
Slc4a8	1.1	0.978	0.3	0.272	0.9	1.000	0.3	0.557
Slc4a9	0.1	0.025	0.1	0.001	3.9	0.359	1.9	0.914
Slc50a1	0.6	0.144	0.8	0.703	0.9	1.000	1.3	0.816
Slc51a	0.3	0.381	0.3	0.424	0.4	1.000	0.4	0.795
Slc51b	1.4	0.835	0.9	0.943	0.8	1.000	0.5	0.820
Slc52a2	0.6	0.178	0.6	0.112	0.8	1.000	0.7	0.762
Slc52a3	0.9	0.931	1.6	0.605	1.1	1.000	2.0	0.762
Slc5a1	0.6	0.551	0.8	0.856	1.1	1.000	1.6	0.897
Slc5a11	0.5	0.758	0.5	0.734	0.4	1.000	0.3	0.868
Slc5a3	1.2	0.779	0.9	0.861	1.1	1.000	0.8	0.949
Slc5a4b	0.7	0.821	0.9	0.966	1.2	1.000	1.7	0.938
Slc5a5	1.8	0.786	2.1	0.703	0.6	1.000	0.7	0.999
Slc5a6	0.5	0.130	0.6	0.166	1.2	1.000	1.3	0.912
Slc5a9	8.5	0.247	0.4	0.685	8.4	0.908	0.4	0.912
Slc6a1	2.1	0.629	0.9	0.971	0.7	1.000	0.3	0.739
Slc6a12	1.1	0.952	1.6	0.137	0.9	1.000	1.4	0.718
Slc6a13	0.8	0.699	0.9	0.818	0.9	1.000	1.0	1.000
Slc6a14	0.5	0.769	3.5	0.348	0.8	1.000	5.4	0.575

Slc6a15	0.5	0.809	1.1	0.997	0.5	1.000	1.2	1.000
Slc6a16	0.3	0.253	0.4	0.249	1.4	1.000	1.5	0.941
Slc6a17	0.9	0.993	0.6	0.731	2.4	1.000	1.5	0.978
Slc6a18	2.9	0.637	7.4	0.293	1.0	1.000	2.6	0.901
Slc6a19	0.1	0.369	0.2	0.320	1.6	1.000	2.0	0.975
Slc6a2	4.6	0.452	0.9	0.953	6.0	0.979	1.1	1.000
Slc6a20b	1.6	0.646	0.6	0.525	1.5	1.000	0.6	0.799
Slc6a4	1.8	0.513	1.4	0.783	0.6	1.000	0.5	0.744
Slc6a6	1.2	0.713	1.6	0.159	0.8	1.000	1.0	1.000
Slc6a8	0.9	0.836	1.3	0.616	0.9	1.000	1.4	0.856
Slc6a9	6.1	<0.001	9.0	<0.001	0.7	1.000	1.1	1.000
Slc7a1	1.4	0.606	1.1	0.915	1.6	1.000	1.2	0.956
Slc7a10	0.3	0.619	0.4	0.559	2.8	1.000	4.4	0.763
Slc7a11	2.0	0.478	1.2	0.861	2.2	1.000	1.4	0.950
Slc7a14	0.6	0.680	0.3	0.273	1.5	1.000	0.7	0.978
Slc7a15	5.0	0.102	19.1	0.010	0.1	0.554	0.4	0.786
Slc7a2	0.4	0.013	0.5	0.058	1.3	1.000	1.6	0.625
Slc7a3	1.8	0.779	0.6	0.776	2.5	1.000	0.8	1.000
Slc7a4	1.1	0.933	1.0	1.000	0.9	1.000	0.8	0.971
Slc7a5	0.8	0.833	0.9	0.848	1.1	1.000	1.2	0.969
Slc7a6	0.5	0.451	2.3	0.214	1.0	1.000	4.6	0.262
Slc7a6os	0.9	0.658	0.8	0.243	1.0	1.000	0.9	0.947
Slc7a7	5.0	<0.001	2.9	0.003	1.1	1.000	0.6	0.601
Slc7a8	1.6	0.380	1.3	0.649	0.9	1.000	0.7	0.841
Slc7a9	8.0	0.255	14.3	0.138	0.6	1.000	1.1	1.000
Slc8a1	3.1	0.236	2.1	0.486	0.7	1.000	0.5	0.803
Slc8b1	0.5	0.023	0.6	0.055	0.8	1.000	0.9	0.958
Slc9a1	0.9	0.792	0.8	0.421	1.1	1.000	1.0	1.000
Slc9a2	0.8	0.965	13.0	0.056	0.3	1.000	4.9	0.575
Slc9a3	0.4	0.766	74.3	0.005	0.1	1.000	23.5	0.238
Slc9a3r1	0.6	0.055	0.7	0.229	0.9	1.000	1.1	0.951
Slc9a3r2	0.6	0.067	0.6	0.102	0.9	1.000	1.0	1.000
Slc9a5	1.0	0.998	0.7	0.518	1.2	1.000	0.8	0.951
Slc9a6	1.1	0.872	1.0	1.000	1.0	1.000	0.9	0.997
Slc9a7	1.7	0.429	2.3	0.141	0.6	1.000	0.9	0.979
Slc9a8	0.7	0.197	0.8	0.267	0.9	1.000	0.9	0.943
Slc9a9	1.3	0.567	1.1	0.861	0.9	1.000	0.8	0.855
Slc9b1	3.2	0.335	5.5	0.152	0.5	1.000	0.8	1.000
Slc9b2	1.3	0.734	1.2	0.795	1.1	1.000	1.0	1.000
Slco1a1	1.6	0.585	2.0	0.319	0.5	1.000	0.6	0.856
Slco1a4	0.4	0.045	0.4	0.063	1.1	1.000	1.2	0.945
Slco1a6	3.9	0.339	5.1	0.192	0.9	1.000	1.2	1.000
Slco1b2	0.5	0.316	0.6	0.375	1.1	1.000	1.2	0.964
Slco2a1	1.1	0.883	1.3	0.562	0.9	1.000	1.0	1.000
Slco2b1	0.9	0.806	1.1	0.859	1.0	1.000	1.2	0.869
Slco3a1	1.0	0.983	0.8	0.635	1.0	1.000	0.8	0.894
Slco4a1	0.5	0.475	0.6	0.524	1.1	1.000	1.3	0.976
Slco4c1	4.8	0.519	17.8	0.035	2.6	1.000	9.6	0.376

| *Slco5a1* | 1.8 | 0.479 | 0.3 | 0.180 | 2.1 | 0.982 | 0.4 | 0.636 |

Supplemental Table S3. Plasma concentrations of bile acids in CVNP, CVP, GFNP, and GFP female C57BL/6 mice. Data shown are means ± SD of 5-6 mice.

Bile Acids	Plasma Concentration (ng/ml)			
	CVNP	**CVP**	**GFNP**	**GFP**
Primary Bile Acids				
α-MCA	108.2 ± 78.4	714.2 ± 880.9	13 ± 17.7	7.7 ± 7.8
T-α-MCA	25.6 ± 4.4	465.7 ± 850.9	3550.7 ± 6505.9	998.5 ± 1451.9
β-MCA	340.5 ± 379.4	1112.7 ± 844.1	140.8 ± 175.5	65.7 ± 53.3
T-β-MCA	36.7 ± 17.7	2674.4 ± 5832.7	22884.7 ± 31772.6	9222.2 ± 10750
CA	393 ± 269.8	5678.6 ± 7628.4	49.6 ± 22.2	37.3 ± 4
CDCA	148.4 ± 36.3	892.2 ± 921.5	128.8 ± 52.1	100 ± 4.7
TCA	173.5 ± 85.8	2483.7 ± 4355.4	9636.8 ± 15368.9	3312 ± 5091.4
TCDCA	15.2 ± 5.5	60.5 ± 85.4	1081.5 ± 2185.7	244.4 ± 378.9
UDCA	68.2 ± 52	688.7 ± 762	3.3 ± 6	1.8 ± 2.3
TUDCA	14.7 ± 4.4	81.5 ± 149.2	797.1 ± 1651.7	268.3 ± 487
Secondary Bile Acids				
ω-MCA	351.5 ± 293.7	2101 ± 1967	0.1 ± 0	0.1 ± 0
T-ω-MCA	334.6 ± 104.4	2897.7 ± 5149.8	0.1 ± 0	0.1 ± 0
DCA	70.9 ± 69.7	478.1 ± 440.4	3.6 ± 7.3	6.3 ± 13.8
TDCA	46.2 ± 31.5	38 ± 16.6	1.7 ± 0	1.7 ± 0
MDCA	47.5 ± 4.2	80 ± 41	43.7 ± 0.6	43.5 ± 0.6
HDCA	225.8 ± 54.9	2037.8 ± 1492.2	29 ± 24.1	8 ± 6.1
THDCA	27.2 ± 10.2	86 ± 89.8	64.9 ± 67.2	31.1 ± 29.3
LCA	81.9 ± 33.8	160 ± 119.4	10.4 ± 9.1	1.9 ± 4
TLCA	19 ± 21.6	94.1 ± 117.3	8.3 ± 20.1	0.1 ± 0

Supplemental Table S4. Plasma concentrations of steroid hormones in CVNP, CVP, GFNP, and GFP female C57BL/6 mice. Data shown are means ± SD of 5-6 mice.

Steroid Hormones	Plasma Concentration (ng/ml)			
	CVNP	CVP	GFNP	GFP
11-deoxycorticosterone	43.5 ± 10.5	197.7 ± 100	107.8 ± 45.4	396.2 ± 112.7
17-OH-pregnenolone	621 ± 211	3329.6 ± 1731.1	910.1 ± 247.4	6186.2 ± 1770.4
17-OH-progesterone	43.4 ± 11.5	198.4 ± 106.9	112.5 ± 37.8	419.9 ± 129.4
Aldosterone	0.1 ± 0	1.7 ± 2.7	0.7 ± 1.5	10.3 ± 3.5
Corticosterone	693.4 ± 214.1	4089 ± 2135.5	1201 ± 252.4	7562.3 ± 2327.3
Cortisol	46.1 ± 19.7	1247.6 ± 741.7	80.8 ± 34.3	1749 ± 427.5
Cortisone	0.1 ± 0	6 ± 5.8	0.1 ± 0	7.4 ± 3.5
DHEA	2.3 ± 2.8	1.3 ± 1.3	0.3 ± 0.3	0.1 ± 0
Estradiol	67.8 ± 37.1	30.9 ± 10.1	65.3 ± 66.2	124.5 ± 128
Estrone	23 ± 19.2	8.6 ± 10.4	28.9 ± 53	20.4 ± 20.8
Pregnenolone	0.1 ± 0	2.5 ± 4.5	1.4 ± 2.4	6.7 ± 4.8
Progesterone	18.6 ± 15.7	577.2 ± 235.8	28.7 ± 47.3	458.5 ± 192.3
Testosterone	0.1 ± 0	0.1 ± 0	0.1 ± 0	0.1 ± 0