

Supplementary Table 5. Expression and fold change levels in each stage specific enriched gene set

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
A2MP1	-0.489	0.015	7.760	10.933	6.824	7.016
ABCB4	-0.485	0.000	7289.350	10204.607	2508.975	3146.615
ABCC4	-0.703	0.000	226.724	369.354	78.818	131.188
ACAT2	-0.411	0.001	2263.755	3009.599	1118.377	1845.415
ACHE	-0.786	0.000	71.912	123.989	48.388	87.739
ACKR1	-0.992	0.000	4.187	8.128	4.079	6.747
ACKR3	-0.436	0.001	68.296	92.328	33.938	52.803
ACP5	-0.485	0.000	649.120	908.966	238.302	362.998
ACSL4	-0.824	0.000	598.262	1059.116	303.035	804.984
ACSS2	-0.407	0.001	2991.793	3966.255	1459.056	2715.009
ADAM28	-0.509	0.000	68.537	97.250	30.930	48.356
ADAMDEC1	-0.957	0.000	4.323	8.454	6.028	8.435
ADARB2	-0.428	0.013	10.850	14.585	7.724	8.991
ADORA1	-0.575	0.000	7.299	10.960	4.941	6.188
ADRA2A	-0.666	0.000	19.272	30.451	11.882	18.559
AEBP1	-0.467	0.000	827.749	1143.973	416.500	716.518
AGPAT4-IT1	-0.379	0.018	10.687	13.794	7.471	6.765
AIM1L	-0.883	0.001	2.836	5.055	4.731	4.058
AJUBA	-0.680	0.000	905.242	1450.599	326.994	479.795
ALG1L	-0.822	0.001	5.808	10.260	4.882	8.099
ALOX15B	-1.099	0.000	3.057	6.319	3.638	5.123
ALOX5AP	-0.389	0.002	24.584	32.136	10.834	16.168
ANAPC1P1	-0.729	0.008	1.700	2.739	1.885	2.621
ANKRD29	-0.673	0.000	62.592	99.720	32.513	49.681
ANKRD36BP2	-0.650	0.000	22.375	35.031	13.809	22.971
ANLN	-0.622	0.000	42.687	65.793	39.338	44.830
ANTXRPL1	-0.511	0.007	4.132	5.860	3.744	3.463
ANXA2	-0.869	0.000	965.538	1763.636	524.602	1003.220
ANXA5	-0.413	0.000	1521.279	2025.781	543.801	831.352
AOAH-IT1	-0.575	0.008	3.725	5.534	3.618	4.154
AP1M2	-0.514	0.004	8.843	12.609	6.276	9.842
APOBEC3B	-0.814	0.000	5.652	9.982	5.868	8.041
APOL3	-0.699	0.000	1143.541	1857.044	562.596	843.057
AQP4	-0.702	0.000	75.639	122.975	45.690	65.123
AQP4-AS1	-0.405	0.014	20.124	26.487	16.265	15.076
ARHGAP11A	-0.391	0.000	72.517	94.968	37.363	37.752
ARHGEF38	-0.477	0.001	21.350	29.600	12.927	20.171
ARPP21	-0.569	0.002	45.258	67.149	42.000	45.140
ASF1B	-0.518	0.000	19.728	28.238	8.066	13.036
ASPM	-0.525	0.000	319.717	459.842	166.956	200.255
ATP10A	-0.416	0.000	47.411	63.016	22.055	26.117

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
ATP2C2	-0.473	0.010	7.889	11.042	4.914	8.982
ATP6V0D2	-1.920	0.000	2.157	8.092	2.991	6.934
AURKB	-0.532	0.001	8.457	12.173	6.206	7.699
B3GALT5	-0.408	0.026	12.069	15.997	10.746	11.447
B3GNT3	-0.531	0.003	18.241	26.280	16.573	18.909
B3GNT5	-0.589	0.000	49.680	74.714	30.896	48.715
BCAT1	-1.170	0.000	116.092	261.123	70.405	189.498
BCL2A1	-0.390	0.009	22.707	29.686	13.898	18.744
BDKRB2	-0.535	0.006	9.022	13.053	6.399	11.940
BHLHE41	-0.722	0.000	21.025	34.434	10.270	19.179
BICC1	-0.547	0.000	253.421	370.123	122.872	208.506
BIRC3	-0.412	0.000	842.571	1121.060	451.616	499.607
BIRC5	-0.485	0.001	32.590	45.640	21.296	28.902
BLM	-0.392	0.001	28.464	37.265	15.196	14.844
BMP5	-0.379	0.000	103.030	133.946	40.198	43.085
BOLL	-0.535	0.006	4.553	6.503	3.673	4.498
BTLA	-0.397	0.001	26.431	34.562	13.360	17.703
BUB1	-0.577	0.000	24.763	37.081	21.088	22.660
BUB1B	-0.792	0.000	20.042	34.790	16.227	21.267
C10orf90	-0.757	0.000	3.037	5.109	2.748	4.870
C11orf45	-0.397	0.001	23.747	31.351	12.490	12.810
C11orf63	-0.455	0.000	19.659	26.706	10.049	11.365
C12orf75	-0.389	0.002	29.955	39.137	12.052	25.001
C15orf48	-1.281	0.000	6.658	16.279	4.962	14.283
C15orf54	-0.431	0.014	30.890	41.473	24.686	27.290
C17orf51	-0.426	0.000	215.389	289.234	117.844	144.079
C1QBP	-0.662	0.001	2.869	4.486	2.853	3.000
C1QC	-0.711	0.000	13.922	22.744	10.806	18.943
C1QTNF1-AS1	-0.420	0.001	29.245	39.063	16.474	19.594
C1orf140	-0.503	0.005	6.009	8.628	5.302	4.360
C20orf197	-0.414	0.049	7.096	9.049	7.206	6.621
C2CD4A	-0.650	0.004	5.235	8.117	5.533	5.902
C7orf76	-0.400	0.000	90.777	119.899	35.418	42.293
C9orf106	-0.607	0.012	6.250	9.439	7.802	6.623
C9orf152	-0.718	0.002	8.007	13.314	9.133	12.227
CADPS	-0.620	0.007	7.280	11.192	7.956	8.954
CAP2	-0.382	0.000	82.216	106.817	32.103	32.100
CAPG	-1.215	0.000	73.974	171.742	40.943	102.408
CASP1P2	-0.730	0.009	1.730	2.903	2.253	2.427
CASR	-0.393	0.025	11.683	15.295	9.320	13.026

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
CBX2	-0.421	0.001	28.840	38.746	15.789	18.998
CCDC64	-0.451	0.000	61.011	83.517	44.807	35.747
CCL18	-0.872	0.000	15.444	28.211	11.101	18.499
CCL22	-0.478	0.003	13.393	18.642	8.983	11.177
CCNA2	-0.423	0.000	58.506	78.270	28.587	36.216
CCNB1	-0.531	0.000	55.674	80.682	26.860	46.505
CCNB2	-0.728	0.000	13.947	23.322	10.862	15.613
CCND1	-0.496	0.000	2994.086	4221.928	1179.800	1306.260
CCNE1	-0.412	0.001	12.668	16.695	6.976	6.857
CCNI2	-0.545	0.002	4.569	6.597	3.294	3.904
CCR4	-0.522	0.000	13.258	18.965	7.403	10.684
CCR5	-0.517	0.000	90.377	129.293	36.709	48.697
CCRL2	-0.640	0.000	22.394	34.939	12.821	19.640
CD1B	-1.164	0.000	1.829	4.094	2.534	2.976
CD1E	-0.467	0.002	21.271	29.333	14.439	17.445
CD2	-0.472	0.000	81.133	112.412	34.632	46.346
CD207	-0.401	0.019	12.723	16.690	8.973	9.965
CD24	-0.823	0.000	398.100	703.884	224.651	470.113
CD3D	-0.418	0.002	32.651	43.685	17.335	22.508
CD3E	-0.384	0.000	40.282	52.571	16.464	22.170
CD3G	-0.453	0.000	20.731	28.413	8.962	11.228
CD40LG	-0.450	0.000	15.130	20.411	8.204	8.947
CD52	-0.650	0.000	85.545	134.373	54.536	82.121
CD6	-0.386	0.000	54.422	71.086	20.612	27.872
CD72	-0.406	0.000	57.116	75.664	24.389	33.558
CD79A	-0.556	0.000	11.252	16.554	6.181	9.012
CD83	-0.442	0.000	152.500	206.945	90.183	92.096
CD84	-0.442	0.000	531.780	722.671	218.038	277.084
CD8B	-0.505	0.001	19.761	28.010	14.421	16.233
CD96	-0.466	0.000	107.569	148.528	34.888	48.467
CDC20	-0.822	0.000	12.337	21.923	10.710	18.325
CDC25A	-0.496	0.000	26.004	36.907	11.174	16.697
CDC25C	-0.870	0.000	6.300	11.704	6.393	9.346
CDC45	-1.229	0.000	9.331	21.992	8.140	15.162
CDC6	-0.821	0.000	38.046	67.355	24.397	33.840
CDC7	-0.618	0.000	48.363	74.046	21.928	29.281
CDCA2	-0.604	0.000	14.387	21.895	10.587	13.832
CDCA7	-0.593	0.001	4.968	7.520	4.048	5.057
CDCA8	-0.486	0.000	15.928	22.430	8.114	10.534
CDCP1	-0.542	0.000	54.018	78.070	27.356	34.358

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
CDH11	-0.407	0.015	105.638	139.910	62.741	120.791
CDH6	-0.622	0.000	129.336	198.955	100.646	144.258
CDK1	-0.563	0.001	37.092	54.877	28.543	38.821
CDKN1A	-0.382	0.003	836.666	1090.548	565.015	504.712
CDKN2B	-0.451	0.000	42.514	57.988	16.629	36.755
CDKN2B-AS1	-0.604	0.002	4.076	6.036	3.491	4.525
CDKN3	-0.797	0.000	7.643	13.434	7.335	11.657
CDT1	-0.572	0.000	27.667	41.105	20.066	21.150
CECR1	-0.413	0.000	485.502	646.394	151.564	195.365
CENPA	-0.536	0.029	4.380	6.354	4.783	5.392
CENPE	-0.385	0.002	68.435	89.411	40.403	47.285
CENPF	-0.508	0.000	143.286	203.928	96.502	110.514
CENPI	-0.721	0.000	15.039	25.038	9.402	16.471
CENPK	-0.680	0.000	15.154	24.257	10.332	13.044
CENPM	-1.000	0.000	6.322	12.460	6.470	10.273
CENPU	-0.452	0.000	84.008	114.689	39.610	51.886
CEP55	-0.504	0.006	10.964	15.626	9.591	12.779
CFAP221	-0.986	0.000	16.051	31.835	16.272	22.438
CHAF1B	-0.413	0.000	21.306	28.187	8.843	10.495
CHEK1	-0.380	0.000	71.492	93.086	22.113	31.028
CHI3L1	-0.801	0.001	397.151	691.838	586.221	664.833
CHODL	-0.528	0.034	1.868	2.540	2.272	1.887
CHST4	-0.446	0.000	165.479	225.371	96.130	124.080
CHST9	-0.710	0.000	256.790	420.167	145.763	222.684
CIB2	-0.380	0.016	6.561	8.470	4.330	4.880
CILP	-0.389	0.000	135.909	177.777	42.570	63.752
CILP2	-0.923	0.000	4.321	8.119	5.287	7.905
CKAP2L	-0.645	0.000	20.305	31.739	14.647	17.682
CKS2	-0.420	0.000	71.921	96.360	30.984	39.925
CLDN10	-0.587	0.000	64.316	96.487	45.198	84.470
CLDN11	-0.614	0.000	57.469	87.719	28.322	47.380
CLDN4	-0.397	0.006	28.418	37.364	20.829	24.948
CLDN7	-0.383	0.000	128.745	168.015	38.783	49.492
CLEC5A	-0.575	0.001	8.973	13.325	6.213	10.196
CLIC6	-0.689	0.000	21.864	35.219	21.736	24.875
CLSPN	-0.870	0.000	20.379	37.347	14.147	18.572
CMTM1	-0.706	0.000	4.811	7.866	4.177	4.631
COL1A2	-0.404	0.003	2281.564	3019.447	1638.277	1976.967
COL22A1	-0.527	0.028	3.358	4.735	3.683	3.986
COL3A1	-0.432	0.000	7715.047	10405.344	5161.756	5819.148

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
CPZ	-0.634	0.000	29.759	46.057	19.049	43.209
CRH	-0.718	0.006	3.302	5.457	4.027	4.130
CRTAM	-0.430	0.001	18.876	25.441	10.925	13.760
CRYM	-0.466	0.000	229.577	317.476	117.804	129.196
CSPG5	-0.758	0.000	4.219	7.093	3.213	4.411
CTSW	-0.478	0.001	39.711	55.395	22.371	27.923
CXCL10	-1.197	0.000	201.926	462.826	178.272	417.445
CXCL9	-0.602	0.001	288.988	438.513	368.084	365.144
CXCR3	-0.673	0.000	12.380	19.791	6.766	9.957
CYP51A1	-0.469	0.002	9575.849	13252.647	6051.212	10371.392
DAGLA	-0.456	0.000	35.020	47.916	16.847	21.015
DCANP1	-0.460	0.000	17.064	23.501	9.632	11.100
DCDC2	-0.603	0.000	162.930	247.305	126.171	176.001
DEPDC1	-1.049	0.000	17.604	36.457	18.312	33.976
DEPDC1B	-0.664	0.000	13.404	21.271	9.291	11.118
DERL3	-0.489	0.000	52.393	73.284	33.370	37.809
DGKI	-0.420	0.047	3.462	4.557	3.170	3.391
DHCR7	-0.550	0.000	1908.415	2795.160	1038.059	1804.702
DHRS9	-0.950	0.000	55.175	106.423	27.702	56.482
DIAPH3	-0.466	0.014	14.085	19.542	13.075	14.870
DIRAS2	-0.512	0.001	13.673	19.378	9.091	13.656
DISC1FP1	-0.753	0.001	2.477	4.139	2.706	3.006
DKK3	-0.421	0.001	213.908	286.329	98.555	158.638
DLGAP5	-0.669	0.000	15.898	25.381	16.527	20.441
DNAJC5B	-0.845	0.000	7.275	13.022	5.167	8.494
DNASE2B	-1.451	0.000	2.030	5.271	2.398	5.145
DOCK11	-0.454	0.000	445.839	610.922	133.585	224.222
DOCK3	-0.462	0.000	36.485	50.242	17.216	15.078
DPP10	-0.425	0.007	14.492	19.345	8.115	12.517
DTL	-1.215	0.000	29.668	68.919	23.041	42.303
DTNA	-1.372	0.000	70.828	183.132	77.401	157.181
DUSP8	-1.388	0.000	15.434	40.351	16.291	35.775
E2F1	-1.155	0.000	26.722	59.454	20.351	40.490
E2F2	-0.692	0.000	12.279	19.891	9.148	12.536
E2F7	-0.583	0.001	10.349	15.376	9.738	9.001
E2F8	-1.128	0.000	8.620	18.726	8.887	12.931
ECT2	-0.547	0.000	92.917	135.805	42.094	52.169
EDA2R	-0.680	0.001	17.287	27.492	14.051	23.730
EDN2	-0.499	0.004	13.676	19.283	11.251	11.242
EHF	-0.408	0.001	223.437	296.264	130.502	191.350

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
ELOVL2	-0.523	0.000	1840.987	2645.954	919.261	1287.346
ELOVL7	-0.453	0.000	42.430	57.959	23.795	36.472
EME1	-0.607	0.000	12.710	19.263	7.271	7.777
EMILIN2	-0.510	0.000	128.750	183.378	68.848	68.174
EMP1	-0.513	0.000	136.085	194.231	85.400	114.063
ENKUR	-0.443	0.000	18.067	24.399	8.212	10.332
ENPP2	-0.439	0.018	497.021	673.709	346.834	628.684
ENPP5	-0.400	0.003	28.291	37.092	14.552	25.702
EPDR1	-0.463	0.000	220.695	304.156	74.572	102.287
EPHA1-AS1	-0.482	0.002	23.242	32.167	17.655	17.390
EPHA3	-0.624	0.000	452.886	698.057	213.103	491.264
EPHB2	-0.668	0.000	39.611	63.128	18.903	30.753
ESRP1	-0.676	0.000	17.300	27.586	12.485	22.306
ETV4	-0.453	0.002	14.617	20.001	8.269	11.831
ETV7	-0.527	0.000	18.257	26.332	10.307	16.586
EXO1	-1.007	0.000	10.651	21.604	9.653	13.831
F2RL1	-0.396	0.000	193.758	254.981	83.943	97.086
F2RL3	-0.482	0.004	6.855	9.580	5.791	5.907
F3	-0.410	0.001	61.553	81.710	28.505	47.315
FABP4	-1.742	0.000	57.919	193.591	50.730	175.888
FABP5	-1.137	0.000	42.176	92.811	30.961	62.920
FADS1	-0.758	0.000	2596.597	4392.571	2176.186	4130.213
FADS2	-0.547	0.007	4200.127	6138.070	3289.394	4456.998
FAM111B	-1.319	0.000	58.300	145.484	56.166	89.765
FAM169A	-0.419	0.000	263.194	351.900	102.353	128.740
FAM217A	-0.639	0.005	3.200	4.908	3.559	3.595
FAM71C	-0.669	0.009	3.844	6.116	4.514	5.783
FANCD2	-0.389	0.000	83.393	109.111	30.539	36.240
FAS-AS1	-0.429	0.000	29.455	39.504	14.767	14.272
FASLG	-0.428	0.000	22.899	30.888	11.694	13.551
FAT1	-0.953	0.000	3928.258	7606.868	1818.867	3225.903
FBXO2	-0.510	0.000	326.268	464.860	171.670	198.961
FCAMR	-1.052	0.000	203.546	422.122	129.724	252.404
FCGR1B	-0.578	0.001	12.417	18.572	9.807	11.818
FCGR1C	-0.832	0.003	5.284	9.434	6.937	7.422
FCGR2A	-0.626	0.000	161.629	249.526	68.170	134.288
FCGR2C	-0.557	0.000	113.684	167.112	64.066	85.748
FCRL2	-0.572	0.001	7.225	10.790	4.733	7.525
FCRL3	-0.471	0.000	25.153	34.832	13.672	18.550
FCRLA	-0.467	0.004	6.686	9.112	3.942	5.752

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
FDFT1	-0.408	0.001	1835.637	2436.103	804.946	1452.283
FDP5	-0.456	0.002	3223.257	4422.905	2052.904	2943.191
FEN1	-0.406	0.000	188.317	249.894	56.097	79.550
FERMT1	-0.438	0.000	28.509	38.628	13.312	20.859
FHAD1	-0.642	0.000	5.656	8.622	4.173	5.603
FLJ38576	-0.398	0.000	34.487	45.581	17.592	13.412
FMN1	-0.500	0.000	141.779	200.094	64.675	72.543
FMO1	-1.042	0.000	102.130	210.395	101.848	150.763
FND5	-0.399	0.007	1795.935	2368.389	1273.678	1160.422
FOXL1	-0.959	0.000	4.858	9.293	4.270	7.783
FOXN4	-0.501	0.038	24.230	34.082	35.453	28.955
FOXP3	-0.427	0.038	26.486	35.636	28.274	27.263
FPR3	-0.604	0.000	356.001	541.089	164.551	273.412
FSTL3	-0.531	0.000	174.948	252.581	97.289	134.950
FXYD2	-0.679	0.000	75.981	121.732	50.455	81.696
GABRE	-0.460	0.003	96.102	132.087	76.068	78.476
GAPT	-0.650	0.000	20.182	31.551	11.853	21.114
GAS2L3	-0.477	0.000	120.516	167.600	42.075	64.666
GAS6-AS2	-0.457	0.006	6.479	8.793	4.060	5.238
GAS7	-0.461	0.000	173.871	239.199	62.752	90.573
GCNT4	-0.406	0.000	66.686	88.219	41.112	39.322
GDF15	-0.431	0.005	58.521	78.877	46.881	51.118
GEM	-0.394	0.004	122.673	161.101	60.453	110.596
GINS1	-0.767	0.000	44.443	75.620	18.928	31.629
GINS2	-0.795	0.000	42.400	73.805	22.529	36.672
GLDN	-1.012	0.000	9.551	19.075	7.230	14.967
GLI1	-0.485	0.000	17.474	24.368	8.813	10.696
GLI2	-0.444	0.002	27.942	37.916	14.414	21.951
GLIS2	-0.460	0.000	77.420	106.417	39.773	65.499
GOLGA7B	-0.410	0.003	19.308	25.561	12.196	12.250
GPC4	-0.487	0.000	72.098	100.737	34.407	52.648
GPNMB	-1.044	0.000	781.814	1612.126	396.821	949.885
GPR141	-0.533	0.000	7.495	10.764	5.058	5.504
GPR151	-0.798	0.000	2.213	3.911	2.185	2.799
GPR171	-0.443	0.000	25.098	34.093	14.502	14.881
GPR174	-0.461	0.000	39.658	54.476	20.391	19.769
GPR84	-0.700	0.013	1.772	2.828	2.377	2.678
GPRC5B	-0.398	0.000	121.609	160.308	41.837	67.087
GPRIN1	-0.442	0.001	20.312	27.585	13.564	14.306
GPRIN2	-0.467	0.004	8.835	12.288	5.586	8.170

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
GPRIN3	-0.382	0.000	273.174	355.646	102.269	126.636
GPSM2	-0.534	0.000	20.515	29.814	11.709	15.494
GRHL2	-0.474	0.001	36.703	50.970	22.813	34.196
GRIN2D	-0.507	0.002	7.478	10.688	5.463	5.673
GSG2	-0.478	0.003	7.400	10.310	5.012	6.033
GTSE1	-0.593	0.003	9.905	15.008	9.106	14.954
GUCA2B	-0.648	0.000	23.712	37.312	13.142	30.027
GXYLT2	-0.513	0.023	6.843	9.738	7.007	8.929
GZMK	-0.392	0.004	77.285	101.409	44.984	55.601
H2AFY2	-0.530	0.000	112.131	162.062	49.179	54.839
HAPLN3	-0.479	0.002	12.377	17.187	7.590	10.520
HAVCR1	-0.672	0.001	2.636	4.165	1.963	2.892
HAVCR2	-0.458	0.000	174.922	240.310	70.711	103.807
HBA1	-0.450	0.013	106.218	145.169	103.184	98.850
HBB	-0.415	0.013	872.826	1163.436	721.556	838.814
HCG17	-0.551	0.016	2.899	4.283	3.199	3.114
HCST	-0.493	0.000	36.060	50.825	12.738	23.851
HECW1	-1.219	0.000	8.864	20.388	7.441	16.165
HELLS	-0.649	0.000	94.264	147.621	46.310	58.379
HIST1H1A	-0.417	0.000	71.382	95.460	27.686	39.516
HIST1H1B	-0.452	0.001	136.664	187.103	88.300	115.108
HIST1H2AB	-0.631	0.000	34.212	53.228	18.100	27.304
HIST1H2AG	-0.480	0.001	80.565	112.509	47.161	69.538
HIST1H2AH	-0.684	0.000	31.321	50.511	23.172	30.722
HIST1H2AI	-0.500	0.002	36.803	52.168	26.348	34.812
HIST1H2AJ	-0.654	0.000	23.965	37.811	16.819	28.389
HIST1H2AL	-0.485	0.002	29.728	41.713	21.555	24.664
HIST1H2AM	-0.413	0.000	80.996	108.049	38.374	51.273
HIST1H2BL	-0.553	0.000	18.423	27.066	10.860	19.492
HIST1H2BM	-0.653	0.000	12.709	19.972	8.786	12.565
HIST1H2BO	-0.520	0.001	36.021	51.693	21.437	32.950
HIST1H3A	-0.615	0.000	52.644	80.913	27.232	37.156
HIST1H3B	-0.542	0.000	72.860	106.291	52.335	67.885
HIST1H3C	-0.518	0.000	76.349	109.585	39.590	54.293
HIST1H3I	-0.454	0.000	29.319	40.380	16.695	19.423
HIST1H3J	-0.744	0.000	9.816	16.511	8.054	13.948
HIST1H4A	-0.521	0.001	24.013	34.572	17.599	20.490
HIST1H4L	-0.640	0.000	17.022	26.683	13.643	19.410
HIST2H3A	-0.511	0.001	36.189	51.697	24.923	38.609
HIST2H3C	-0.511	0.001	36.189	51.697	24.923	38.609

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
HJURP	-0.473	0.001	18.921	26.284	13.406	14.763
HLA-DMA	-0.399	0.000	275.915	363.783	84.989	135.396
HLA-DMB	-0.473	0.000	335.965	466.424	143.313	231.756
HLA-DOB	-0.472	0.006	19.675	27.314	13.694	18.428
HLA-DQA2	-0.687	0.022	84.378	135.822	79.613	124.745
HLA-DQB2	-0.692	0.003	9.421	15.205	9.021	13.709
HLA-DRA	-0.426	0.000	4147.075	5571.623	1885.054	2889.201
HMGCR	-0.575	0.001	2490.131	3709.918	1779.021	3130.654
HMMR	-0.692	0.000	40.395	65.402	28.910	44.339
HNRNPA1P33	-1.236	0.000	3.372	7.962	4.533	7.578
HOPX	-0.445	0.001	21.086	28.768	12.265	15.496
HOXB5	-0.476	0.002	5.222	7.322	3.047	3.879
HPCAL4	-0.839	0.006	1.346	2.422	1.841	2.318
HPSE	-0.396	0.000	86.193	113.344	34.963	50.741
HRAT92	-0.651	0.000	10.216	16.088	7.106	9.769
HRCT1	-0.629	0.005	5.902	9.095	5.767	8.080
HS3ST2	-1.829	0.000	11.242	39.973	8.409	29.329
HSPA6	-0.461	0.000	38.405	52.890	17.576	24.363
HSPA7	-0.530	0.000	160.815	232.119	107.247	142.142
HTR7	-0.651	0.000	30.184	47.188	17.985	27.069
HTRA4	-0.929	0.000	2.596	4.871	3.202	3.552
HULC	-0.650	0.000	1049.939	1647.873	829.301	892.044
HYAL3	-0.618	0.000	90.461	139.039	33.144	48.956
ICOS	-0.565	0.000	15.075	22.202	9.897	12.340
IDI1	-0.607	0.000	2925.155	4454.579	1832.900	3228.414
IERSL	-0.466	0.000	101.290	139.865	39.469	61.046
IFI30	-0.601	0.000	806.278	1223.496	384.254	587.606
IFNG-AS1	-0.408	0.013	20.346	26.784	13.524	16.395
IGFBPL1	-0.646	0.001	15.739	24.748	13.890	18.246
IGFN1	-0.440	0.039	16.936	14.971	46.779	13.889
IGLL5	-0.487	0.007	265.984	372.746	180.509	284.123
IGSF3	-0.926	0.000	58.413	110.897	31.577	65.797
IGSF6	-0.469	0.000	176.811	244.932	87.241	113.451
IL20RA	-0.514	0.001	16.746	23.891	8.956	17.465
IL2RG	-0.412	0.000	80.731	107.315	23.676	38.534
IL32	-0.653	0.000	1245.326	1957.852	879.670	1029.633
IL4I1	-0.613	0.000	16.634	25.382	10.229	14.918
IQGAP3	-0.763	0.000	25.170	42.774	22.912	33.770
IRF4	-0.527	0.000	84.234	121.122	31.022	59.103
ISM1	-0.398	0.000	267.743	352.782	113.172	117.670

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
ITGA6	-0.452	0.000	1241.459	1698.754	347.280	429.239
ITGAE	-0.415	0.000	48.327	64.770	12.338	17.704
ITGAM	-0.419	0.000	182.401	243.843	72.004	82.842
ITGAX	-0.670	0.000	280.325	445.878	141.809	213.458
ITGBL1	-0.615	0.000	243.870	373.476	154.105	290.886
ITIH5	-0.393	0.000	126.279	165.661	48.978	77.594
JAKMIP1	-0.428	0.003	10.898	14.796	6.387	8.157
JCHAIN	-0.555	0.003	930.946	1368.026	754.015	1143.163
KCNJ15	-0.389	0.002	84.215	110.152	61.328	70.434
KCNJ16	-0.452	0.002	53.150	72.528	39.900	55.784
KCNJ5	-1.331	0.000	20.323	51.115	14.559	32.465
KCNN4	-0.591	0.000	8.680	13.096	5.771	6.849
KCNS1	-0.389	0.012	7.197	9.279	4.995	4.430
KIAA0408	-0.474	0.014	51.687	71.732	35.803	61.675
KIAA1211	-0.493	0.000	57.905	81.251	25.124	44.569
KIAA1644	-0.410	0.010	14.718	19.462	8.952	12.906
KIF18A	-0.629	0.000	14.344	22.294	10.354	11.559
KIF18B	-0.713	0.000	6.632	11.018	5.877	9.899
KIF20A	-0.685	0.000	24.634	39.715	21.879	27.294
KIF23	-0.539	0.001	20.582	29.979	15.651	18.389
KIF4A	-0.652	0.000	20.548	32.402	16.723	22.794
KIFC1	-0.554	0.000	16.359	24.069	12.399	14.512
KLC3	-0.468	0.034	2.700	3.725	2.635	2.921
KLHL29	-0.578	0.000	99.475	148.289	43.786	75.072
KLHL41	-0.550	0.000	43.605	46.293	93.204	24.055
KLHL6	-0.462	0.000	136.086	187.299	35.695	66.450
KPNA2	-0.510	0.000	169.132	241.123	77.860	88.938
KRT18	-0.388	0.000	3509.708	4592.106	1370.549	1369.209
KRT222	-0.430	0.000	108.480	146.363	47.450	56.520
KRT7	-0.653	0.000	88.338	138.903	53.131	89.240
KRT8	-0.469	0.000	4388.618	6073.234	1767.126	1920.031
KRTAP5-AS1	-1.881	0.000	1.303	4.825	2.507	4.764
KSR2	-0.505	0.025	6.749	9.369	9.062	8.511
LAIR1	-0.577	0.000	134.970	201.374	58.725	82.533
LAMA2	-0.666	0.000	863.899	1370.239	303.400	824.769
LAMA3	-0.679	0.000	307.550	492.449	154.108	188.892
LAMC3	-0.906	0.000	248.839	466.360	156.175	312.178
LAMP3	-0.475	0.002	22.367	30.939	16.831	18.111
LAMP5	-0.619	0.008	3.974	6.061	3.904	5.497
LAPTM5	-0.408	0.000	968.330	1284.897	388.901	516.660

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
LAX1	-0.438	0.000	33.795	45.671	11.433	16.669
LAYN	-0.418	0.004	17.861	23.768	10.744	15.975
LCT	-0.509	0.001	6.049	8.593	4.175	4.309
LEF1	-0.633	0.000	18.928	29.159	11.076	16.050
LEFTY2	-0.779	0.015	1.414	2.425	2.078	2.367
LGALS3	-0.790	0.000	167.763	290.029	73.721	149.044
LGALS4	-0.869	0.000	822.532	1502.484	770.968	1176.540
LGR6	-0.457	0.002	23.178	31.654	18.984	18.613
LHFPL2	-0.405	0.000	359.791	476.242	99.475	156.938
LHX6	-0.760	0.000	18.398	31.079	11.214	15.588
LILRA4	-0.622	0.001	7.006	10.818	5.472	7.802
LINC00313	-0.712	0.006	3.961	6.500	5.413	6.302
LINC00319	-0.467	0.028	12.738	17.620	12.786	16.070
LINC00707	-0.526	0.025	2.873	4.002	3.471	2.804
LINC00892	-0.730	0.000	3.761	6.158	3.237	4.542
LINC00900	-0.756	0.000	3.675	6.179	3.310	4.426
LINC01010	-0.572	0.000	14.529	21.645	10.068	12.063
LINC01094	-0.884	0.000	11.519	21.168	6.011	13.781
LINC01108	-0.917	0.000	2.754	5.249	2.213	3.902
LINC01151	-0.731	0.000	5.833	9.675	5.142	6.066
LINC01272	-0.571	0.000	13.546	20.039	7.965	9.885
LINC01375	-0.720	0.001	2.813	4.553	2.652	3.474
LINC01426	-0.693	0.000	15.095	24.118	12.009	13.910
LINC01561	-0.912	0.000	3.734	6.817	3.886	5.094
LIPH	-0.384	0.034	7.654	9.989	5.526	7.556
LOC100128993	-0.441	0.010	4.255	5.808	3.459	2.950
LOC100130899	-0.560	0.004	46.441	68.469	40.531	61.000
LOC100287846	-0.443	0.012	4.530	6.200	3.218	4.441
LOC100506136	-0.423	0.003	10.867	14.368	6.373	6.875
LOC100506895	-0.581	0.035	2.696	3.954	3.413	3.508
LOC100996455	-0.398	0.018	5.039	6.871	3.264	4.578
LOC101927070	-0.752	0.003	2.309	3.806	2.307	3.278
LOC101927156	-0.612	0.001	4.487	6.745	3.737	3.995
LOC101927285	-0.806	0.011	1.234	2.016	1.949	2.006
LOC101927410	-0.492	0.009	4.112	5.770	3.404	3.439
LOC101928105	-0.661	0.002	4.420	7.122	4.160	4.795
LOC101928304	-0.427	0.001	13.733	18.407	9.306	7.173
LOC101929125	-0.767	0.015	0.955	1.581	1.215	1.539
LOC101929331	-0.566	0.001	5.576	8.287	4.334	5.480
LOC101929431	-0.591	0.018	2.300	3.562	2.498	2.593

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
LOC101929450	-1.031	0.000	2.214	4.274	3.452	4.107
LOC102724297	-0.612	0.014	3.033	4.569	3.029	3.723
LOC158434	-0.414	0.015	14.778	19.558	10.335	12.746
LOC284581	-0.638	0.003	6.670	10.328	5.978	8.408
LOC653786	-0.664	0.001	5.384	8.434	4.275	5.903
LOXL1	-0.495	0.006	33.878	47.730	26.803	37.576
LOXL1-AS1	-0.621	0.002	3.810	5.674	3.206	3.758
LOXL4	-0.774	0.000	103.297	176.510	44.702	170.504
LPL	-1.886	0.000	48.686	179.756	46.883	160.175
LRCOL1	-0.428	0.003	41.367	55.648	22.552	33.873
LRRC1	-0.396	0.016	35.109	45.985	30.202	34.905
LRRC31	-0.505	0.000	204.575	290.549	71.934	102.334
LRRC7	-0.419	0.017	37.972	50.561	29.977	38.080
LSP1	-0.429	0.000	206.858	278.461	65.425	96.300
LTBP2	-0.785	0.000	356.132	613.642	148.647	401.758
LUM	-0.678	0.000	951.700	1522.353	636.560	1169.323
LXN	-0.384	0.003	54.682	71.447	32.745	46.429
LYPD2	-1.149	0.000	4.636	10.340	7.259	10.321
LYPD5	-0.553	0.004	4.802	6.959	3.258	5.506
LYZ	-0.678	0.000	1073.825	1717.586	553.522	1165.510
MACC1	-0.568	0.000	63.488	93.842	34.452	46.769
MAD2L1	-0.612	0.000	32.143	49.220	17.229	25.320
MAGED4	-0.513	0.015	5.478	7.670	4.689	7.116
MAGEL2	-0.640	0.003	2.781	4.337	2.512	3.201
MAP1A	-0.392	0.004	45.838	60.037	26.675	39.622
MATK	-0.429	0.000	57.297	77.411	20.642	27.628
MCM10	-1.021	0.000	15.869	32.189	13.380	20.389
MCM2	-0.944	0.000	167.954	323.234	90.332	171.475
MCM4	-0.419	0.000	489.308	654.246	105.860	186.855
MCM5	-0.484	0.000	348.610	487.680	126.962	183.495
MCM6	-0.685	0.000	229.015	368.338	70.186	138.631
MCOLN2	-0.402	0.001	29.313	38.494	14.304	17.762
MCOLN3	-0.751	0.000	10.155	16.982	7.239	10.938
MDFI	-0.667	0.004	7.901	12.620	7.166	12.425
ME1	-0.730	0.000	434.065	720.296	229.136	466.922
MEI1	-0.385	0.001	12.008	15.642	4.795	7.792
MELK	-0.848	0.000	14.242	25.777	14.047	15.880
MEP1A	-0.618	0.003	3.593	5.489	2.935	4.236
MESP2	-0.696	0.014	1.527	2.374	1.723	2.193
MEX3B	-0.421	0.012	22.115	29.551	16.030	22.124

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
MFAP4	-0.452	0.000	356.072	486.917	159.131	230.589
MKI67	-0.630	0.000	164.267	254.378	137.462	167.752
MMP19	-0.470	0.000	51.208	70.624	23.626	27.645
MND1	-0.705	0.003	3.100	5.054	3.041	4.239
MOXD1	-0.792	0.000	33.489	57.840	30.639	57.561
MRAS	-0.615	0.000	175.502	268.791	58.421	94.439
MS4A1	-0.449	0.001	46.913	63.975	28.287	34.887
MS4A14	-0.600	0.000	29.142	44.082	14.934	18.595
MSN	-0.444	0.000	2424.062	3298.039	725.673	956.946
MSR1	-0.622	0.000	650.242	1000.666	316.392	582.907
MSTO2P	-0.513	0.013	13.976	19.848	12.992	14.516
MTMR11	-0.417	0.001	52.507	69.820	33.517	36.874
MYB	-0.617	0.000	5.999	9.148	3.822	6.158
MYOZ1	-0.850	0.000	8.601	8.687	29.700	8.674
NALCN	-1.197	0.000	69.762	159.638	32.508	106.596
NALCN-AS1	-0.732	0.007	1.619	2.783	2.180	2.633
NAV3	-0.435	0.001	161.346	217.870	78.634	129.288
NCAPG	-0.706	0.000	42.910	70.110	36.520	41.370
NCAPH	-0.686	0.000	16.915	27.280	9.734	11.936
NCF2	-0.381	0.000	179.112	233.299	65.136	92.485
NCR3LG1	-0.397	0.000	43.841	57.520	21.889	19.774
NDC80	-0.791	0.000	17.420	30.239	13.042	18.278
NEB	-0.631	0.000	788.481	852.961	1874.950	492.163
NEIL3	-0.565	0.001	6.047	9.102	4.520	6.732
NEK2	-0.691	0.001	9.968	16.209	9.040	13.699
NLRP2	-0.449	0.017	12.775	17.516	10.254	12.380
NME8	-0.687	0.002	2.804	4.307	3.069	2.967
NOS2	-0.666	0.000	16.988	26.862	13.256	14.787
NPBWR1	-0.459	0.042	28.906	39.756	24.652	31.734
NPM2	-0.546	0.000	17.432	25.499	8.970	14.220
NPTX2	-0.564	0.007	6.105	9.150	5.414	7.526
NQO1	-0.468	0.000	53.789	74.366	21.339	48.016
NRADDP	-0.452	0.026	5.757	7.916	5.755	5.124
NRAP	-0.481	0.000	49.302	47.835	118.747	28.674
NRG1	-0.490	0.039	139.830	196.365	142.462	181.838
NRIP3	-1.109	0.000	10.377	22.110	6.155	11.970
NSDHL	-0.398	0.001	476.051	627.638	243.327	392.866
NUF2	-0.617	0.001	8.795	13.505	7.325	10.271
NUSAP1	-0.519	0.000	152.095	217.878	60.742	96.672
OCA2	-0.611	0.003	9.015	13.770	8.456	11.672

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
OR2AE1	-0.529	0.038	2.620	3.720	2.907	3.255
ORC1	-0.869	0.000	15.787	28.891	10.803	14.466
ORC6	-0.826	0.000	9.733	17.183	6.800	10.570
OSCAR	-0.403	0.001	16.806	22.303	7.217	11.867
OTOA	-0.388	0.005	17.679	23.397	9.869	12.842
P2RY10	-0.517	0.000	19.570	27.901	11.913	14.339
PAK3	-0.461	0.009	7.135	9.865	5.054	7.436
PAK7	-0.491	0.015	5.794	8.092	4.776	8.073
PAQR4	-0.583	0.000	36.217	54.193	16.368	25.044
PAQR5	-0.546	0.000	66.472	96.925	30.540	44.824
PART1	-0.636	0.006	4.070	6.240	4.522	4.648
PBK	-1.066	0.000	11.157	23.551	15.881	21.918
PBX4	-0.577	0.013	3.004	4.470	2.729	3.345
PCBP3	-0.414	0.021	5.526	7.361	4.567	4.487
PCDHA11	-0.393	0.047	15.545	20.358	12.814	16.967
PCSK5	-0.402	0.000	211.718	279.424	82.375	108.970
PDGFA	-0.822	0.000	71.697	126.786	30.656	65.305
PDGFD	-0.480	0.000	179.397	250.009	88.501	151.542
PDGFRA	-0.401	0.000	1890.530	2495.912	605.236	1055.230
PEG10	-0.770	0.000	1158.643	1975.449	973.077	1719.379
PHEX	-0.580	0.001	5.982	8.815	5.268	5.178
PIK3IP1	-0.482	0.000	290.420	405.669	88.203	146.154
PKMYT1	-0.664	0.000	9.301	14.883	6.437	10.541
PLA2G7	-0.863	0.000	86.142	156.801	43.593	79.772
PLAU	-0.440	0.000	62.791	85.023	26.230	44.831
PLAUR	-0.491	0.000	36.147	50.833	21.390	27.838
PLIN2	-0.423	0.000	6233.510	8354.698	3266.123	3586.019
PLK4	-0.437	0.000	39.625	53.709	16.647	17.665
PLXNC1	-0.461	0.000	385.493	530.350	124.394	194.649
PNOC	-0.631	0.002	2.855	4.316	2.566	2.867
PODN	-0.547	0.000	181.152	264.558	100.253	149.020
POF1B	-0.380	0.013	28.123	36.556	15.537	28.994
POLQ	-0.651	0.000	40.545	63.578	27.868	27.632
POU2AF1	-0.473	0.003	13.379	18.506	9.511	10.829
PPAPDC1A	-0.816	0.000	12.438	21.753	7.236	11.266
PPP1R27	-0.428	0.048	3.513	4.667	3.635	3.851
PRC1	-0.473	0.000	73.652	102.310	34.616	45.977
PRKAA2	-0.425	0.003	470.023	630.869	273.061	341.750
PRKCE	-0.621	0.000	666.002	1024.022	413.316	551.210
PRR36	-0.825	0.005	2.505	4.434	2.590	3.844

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
PTCHD4	-0.442	0.020	35.020	47.317	30.025	31.496
PTGES2-AS1	-0.601	0.000	7.585	11.542	5.446	5.433
PTGFR	-0.478	0.000	119.099	165.872	60.522	74.318
PTPN22	-0.400	0.000	92.944	122.692	34.706	47.727
PTPN7	-0.386	0.000	67.483	88.117	24.944	29.006
PTPRO	-0.425	0.000	82.243	110.344	39.416	51.598
PTTG1	-0.616	0.000	18.803	28.825	13.246	21.371
PYGM	-0.445	0.002	29.826	26.313	82.297	19.308
QPCT	-0.434	0.001	20.768	28.163	11.455	14.204
RAB25	-1.012	0.000	5.141	10.530	4.623	10.158
RAB39B	-0.455	0.000	10.777	14.748	5.871	6.519
RAD51AP1	-0.733	0.000	25.889	43.152	15.112	18.962
RAD54L	-0.459	0.002	11.986	16.590	7.134	9.591
RAPGEF4-AS1	-0.563	0.016	2.756	4.083	2.768	3.477
RASAL1	-0.547	0.008	6.405	9.427	5.945	7.603
RASEF	-0.936	0.000	77.105	147.456	41.730	90.342
RASGRF1	-0.757	0.000	2.724	4.424	2.768	2.686
RASL11B	-0.564	0.000	15.406	22.547	8.548	13.491
RBM20	-0.737	0.000	25.124	41.725	17.933	34.217
RDM1	-0.543	0.031	2.161	3.053	2.127	2.544
RELB	-0.453	0.000	104.567	143.210	43.021	59.197
RFX5	-0.393	0.000	551.071	723.841	131.159	167.817
RHCG	-0.421	0.006	10.154	13.732	6.989	7.818
RIBC2	-0.745	0.017	1.696	2.757	2.460	2.755
RIMS3	-0.505	0.000	70.365	100.271	21.039	26.391
RMI2	-0.867	0.000	15.408	28.131	9.504	14.889
RNASE1	-0.576	0.000	196.675	293.180	101.633	137.493
RNASE6	-0.480	0.000	56.456	78.732	28.067	37.441
RNASEH2B-AS1	-0.605	0.036	1.239	1.889	1.476	1.884
RNF157	-0.501	0.000	49.011	69.426	30.845	31.695
RNF186	-0.399	0.012	11.675	15.547	7.168	9.101
ROPN1B	-0.468	0.011	7.903	11.007	6.097	7.084
ROS1	-0.971	0.000	13.249	26.038	11.302	20.221
RPS6KA1	-0.445	0.000	526.047	716.441	175.331	213.610
RPS6KL1	-0.450	0.000	83.823	114.282	39.343	41.004
RRAD	-0.681	0.000	21.850	34.940	11.664	26.429
RRM2	-0.595	0.000	74.026	111.886	63.512	64.671
RS1	-0.458	0.049	2.577	3.475	2.964	2.647
RUNX1-IT1	-0.427	0.001	22.654	30.443	12.610	13.682
S100A11	-0.419	0.000	76.462	102.349	31.260	43.544

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
S100A14	-0.397	0.000	76.543	101.117	30.577	37.485
SAMD11	-0.551	0.000	79.722	116.683	40.962	64.535
SAMD13	-0.487	0.004	6.632	9.160	4.548	5.849
SAXO2	-0.466	0.008	15.045	20.677	10.899	19.000
SCAMP5	-0.501	0.011	114.741	162.491	82.146	119.592
SCD	-0.687	0.000	45405.672	73122.528	35303.564	52519.003
SCG3	-0.391	0.003	14.948	19.516	9.180	7.704
SCHIP1	-0.672	0.004	43.437	69.214	38.077	46.027
SCIN	-1.398	0.000	4.288	11.034	5.437	9.188
SDCBP2	-0.735	0.000	84.202	140.308	37.247	70.103
SEL1L3	-0.381	0.000	543.904	708.444	151.658	232.819
SEMA3E	-0.434	0.004	28.707	38.697	19.765	37.080
SEMA7A	-0.418	0.000	34.543	45.972	16.373	18.023
SERPINB8	-0.626	0.000	139.746	215.518	51.791	82.782
SERPINE3	-0.433	0.046	4.250	5.753	3.534	4.645
SEZ6L2	-0.534	0.007	9.599	13.949	9.886	12.288
SFRP5	-0.389	0.005	138.301	181.152	106.830	97.083
SIGLEC8	-0.895	0.000	13.336	24.936	8.637	17.478
SIRPG-AS1	-0.482	0.024	3.556	4.853	3.545	3.309
SIT1	-0.562	0.000	14.250	21.042	7.582	10.662
SKA1	-1.063	0.000	5.625	11.817	5.299	8.487
SLA2	-0.408	0.000	39.643	52.424	19.116	16.132
SLAMF7	-0.593	0.000	132.682	200.147	43.551	78.191
SLAMF8	-0.562	0.000	54.282	80.043	23.948	39.120
SLC12A3	-0.503	0.049	2.331	3.297	2.879	2.802
SLC16A11	-0.446	0.001	69.360	94.520	36.061	59.018
SLC1A3	-0.797	0.000	96.157	166.947	56.251	93.623
SLC22A11	-0.673	0.001	15.051	24.001	13.327	18.328
SLC22A15	-0.388	0.001	31.845	41.344	14.177	25.213
SLC22A2	-0.552	0.013	2.872	4.234	3.076	3.037
SLC25A53	-0.405	0.005	10.765	14.157	6.068	7.002
SLC2A14	-0.886	0.000	15.350	28.449	13.540	14.881
SLC2A5	-0.526	0.007	5.188	7.343	4.411	6.361
SLC35F2	-0.384	0.003	17.868	23.184	9.571	11.718
SLC38A5	-0.409	0.024	6.000	8.012	4.816	5.308
SLC44A3	-0.399	0.002	121.220	159.864	49.478	84.470
SLC51B	-0.800	0.003	5.141	9.037	8.996	8.276
SLC6A19	-0.598	0.001	47.660	72.113	33.178	51.710
SLC6A8	-0.456	0.000	24.859	34.046	12.673	15.392
SLC7A14	-0.902	0.000	6.132	11.421	4.828	7.685

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
SLIT2	-0.588	0.000	129.780	194.988	41.879	106.166
SNAP25-AS1	-0.522	0.003	17.046	24.430	11.187	23.101
SNX20	-0.392	0.000	39.050	51.234	15.170	17.687
SORT1	-0.412	0.009	320.556	426.389	302.985	410.735
SOX4	-0.427	0.000	131.751	176.979	62.365	97.633
SOX9	-0.542	0.000	93.621	136.232	59.934	75.078
SPC24	-0.895	0.000	4.385	8.265	4.738	6.396
SPHK1	-0.485	0.000	21.771	30.438	12.682	17.585
SPINT1	-0.535	0.000	46.229	66.994	27.512	39.111
SPINT2	-0.406	0.000	195.032	258.458	83.943	140.045
SPOCD1	-1.549	0.000	1.787	4.761	2.852	4.551
SPP1	-1.448	0.000	223.421	609.617	195.754	501.769
SPTA1	-0.590	0.022	2.872	4.379	3.617	3.776
SQLE	-0.831	0.000	1294.810	2303.580	1262.358	2258.588
SRXN1	-0.431	0.000	503.424	679.203	148.215	226.203
ST14	-0.527	0.000	179.633	258.977	79.594	117.611
ST6GALNAC1	-0.734	0.000	8.033	13.153	6.078	7.772
ST8SIA1	-0.439	0.002	17.910	24.050	10.761	14.522
STRIP2	-0.448	0.000	19.902	27.033	8.829	11.554
STXBPL	-0.651	0.042	1.485	2.221	2.263	2.137
STYK1	-0.430	0.046	5.292	6.964	6.517	4.935
SUSD2	-0.591	0.000	46.183	69.478	28.416	53.016
SV2A	-0.383	0.000	21.122	27.504	9.030	11.671
SYT13	-0.672	0.000	22.563	35.864	21.285	30.542
TAS2R60	-0.547	0.008	8.917	12.941	8.342	10.920
TCF19	-0.798	0.000	74.466	129.484	36.320	57.530
TCL1A	-0.582	0.002	6.672	9.921	4.674	7.206
TDRD15	-0.430	0.005	379.628	511.080	287.124	277.034
TGFBI	-0.406	0.000	3962.533	5251.740	1316.819	1645.361
THBS2	-0.763	0.000	500.129	848.862	338.883	796.717
THRA1/BTR	-0.644	0.002	4.402	6.696	3.565	4.848
THY1	-0.731	0.000	77.556	128.737	54.742	115.580
TIAM2	-0.531	0.004	9.540	13.910	6.902	12.241
TIFAB	-0.408	0.018	7.119	9.310	5.065	5.773
TIGAR	-0.619	0.000	97.593	149.804	44.452	66.016
TK1	-0.605	0.000	64.234	97.902	36.107	47.945
TLR7	-0.584	0.000	64.791	96.960	34.497	52.599
TM4SF19	-2.103	0.000	5.351	22.819	7.914	21.466
TM4SF19-AS1	-0.907	0.000	6.863	12.466	7.396	11.226
TM6SF1	-0.525	0.000	42.190	60.542	20.358	28.079

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
TMC4	-0.564	0.000	19.122	28.379	11.648	21.627
TMEM119	-0.442	0.019	22.681	30.810	16.162	30.520
TMEM144	-0.409	0.000	86.024	114.216	36.484	47.158
TMEM154	-1.000	0.000	403.208	806.343	340.743	569.767
TMEM178B	-0.686	0.000	9.793	15.704	7.958	14.797
TMEM200A	-0.901	0.000	13.241	24.575	7.515	21.685
TMEM255A	-0.789	0.000	19.716	33.989	10.210	16.161
TMEM45B	-0.570	0.000	574.607	852.857	328.226	514.788
TMEM54	-0.438	0.000	36.120	49.127	16.689	20.615
TNF	-0.588	0.000	20.387	30.629	10.548	15.549
TNFRSF11A	-0.403	0.000	60.694	80.208	19.439	32.006
TNFRSF12A	-1.324	0.000	44.914	112.661	38.516	91.925
TNFRSF17	-0.410	0.005	11.271	14.807	7.158	8.285
TNFRSF4	-0.504	0.003	5.873	8.387	4.469	4.471
TNFRSF9	-0.663	0.000	12.127	18.996	6.279	10.589
TNFSF15	-0.485	0.000	39.951	55.868	16.558	24.871
TOP2A	-0.722	0.000	139.680	230.639	135.742	162.762
TP53I3	-0.650	0.000	213.940	335.749	115.381	159.892
TP73	-0.417	0.001	36.645	48.722	19.363	24.035
TRAT1	-0.488	0.000	22.882	32.104	12.663	17.053
TREM2	-1.944	0.000	20.316	78.256	18.042	64.461
TREML1	-0.455	0.023	3.831	5.085	3.308	3.364
TREML2	-0.513	0.001	5.037	7.221	3.676	3.799
TRIM31	-1.096	0.000	11.123	23.877	20.783	23.225
TRIM59	-0.382	0.000	42.764	55.803	17.326	17.184
TROAP	-0.507	0.014	8.513	11.848	6.694	11.377
TRPC4	-0.485	0.014	6.735	9.302	5.858	6.914
TRPV2	-0.385	0.000	138.643	181.237	39.043	58.391
TTC24	-0.591	0.032	1.665	2.557	2.133	2.358
TTC9	-1.132	0.000	44.926	98.493	26.554	60.738
TTK	-0.843	0.000	14.916	26.913	12.880	17.288
TTN	-0.441	0.000	5928.634	5004.910	17464.185	2943.600
TUBA1B	-0.394	0.000	2344.077	3080.844	923.208	1168.128
TUBA1C	-0.382	0.000	551.559	718.969	222.930	247.156
TUBA4B	-0.626	0.017	1.832	2.791	1.846	2.712
TYMS	-0.669	0.000	59.178	94.126	39.082	45.597
TYMSOS	-0.582	0.001	14.247	21.229	9.831	11.730
TYROBP	-0.381	0.000	154.002	200.699	59.172	86.637
UBD	-0.770	0.000	775.746	1322.444	738.641	947.867
UBE2C	-0.563	0.002	9.004	13.540	8.138	9.769

Supplementary Table 5. Continued

Gene_id	log2FC	P-value	Steatosis	MASH	Steatosis_sd	MASH_sd
UBE2T	-0.760	0.000	12.192	20.862	8.072	11.058
UBXN10	-0.534	0.001	406.305	588.210	262.050	385.517
UHRF1	-0.784	0.000	36.601	62.837	26.316	33.111
ULBP2	-0.417	0.030	4.145	5.575	3.574	3.542
UNC5B	-0.386	0.000	224.658	293.502	61.826	114.375
USH1C	-0.621	0.000	16.042	24.584	10.170	18.806
VCAN	-0.552	0.000	441.747	647.685	379.857	518.350
VENTX	-0.398	0.008	9.373	12.380	5.839	7.406
VEPH1	-0.428	0.001	53.488	71.594	24.473	43.130
VTCN1	-0.427	0.025	20.089	27.081	23.424	19.969
WBSCR17	-0.771	0.000	9.376	15.933	7.874	14.991
WDHD1	-0.607	0.000	62.450	95.007	21.514	33.732
WDR76	-0.432	0.000	65.002	87.497	24.071	32.144
WIPI1	-0.450	0.000	302.680	413.777	93.344	109.267
WNT4	-0.635	0.000	41.826	64.800	19.261	36.387
XK	-0.523	0.000	65.911	94.866	38.879	50.904
ZBED2	-0.420	0.012	6.981	9.195	5.167	5.179
ZBTB33	-0.420	0.000	1291.337	1727.296	490.872	581.773
ZMAT3	-0.449	0.000	1626.996	2220.952	785.747	952.973
ZNF367	-0.639	0.000	170.291	265.123	64.414	116.625
ZNF528-AS1	-0.468	0.003	4.584	6.381	3.322	3.046
ZNF541	-0.465	0.005	5.959	8.183	4.476	4.706
ZNF683	-1.253	0.000	2.127	5.159	2.452	4.573
ZNF724P	-0.550	0.000	5.732	8.306	3.600	4.294
ZNF826P	-0.700	0.006	1.821	2.938	1.961	2.657
ZPLD1	-0.518	0.027	5.466	7.727	6.531	7.662
ZWINT	-0.750	0.000	47.440	80.052	26.897	39.043