10 APPENDICES

Figure 10.1 Sanger Sequence of FSPS13B Untargeted Control Clone #1

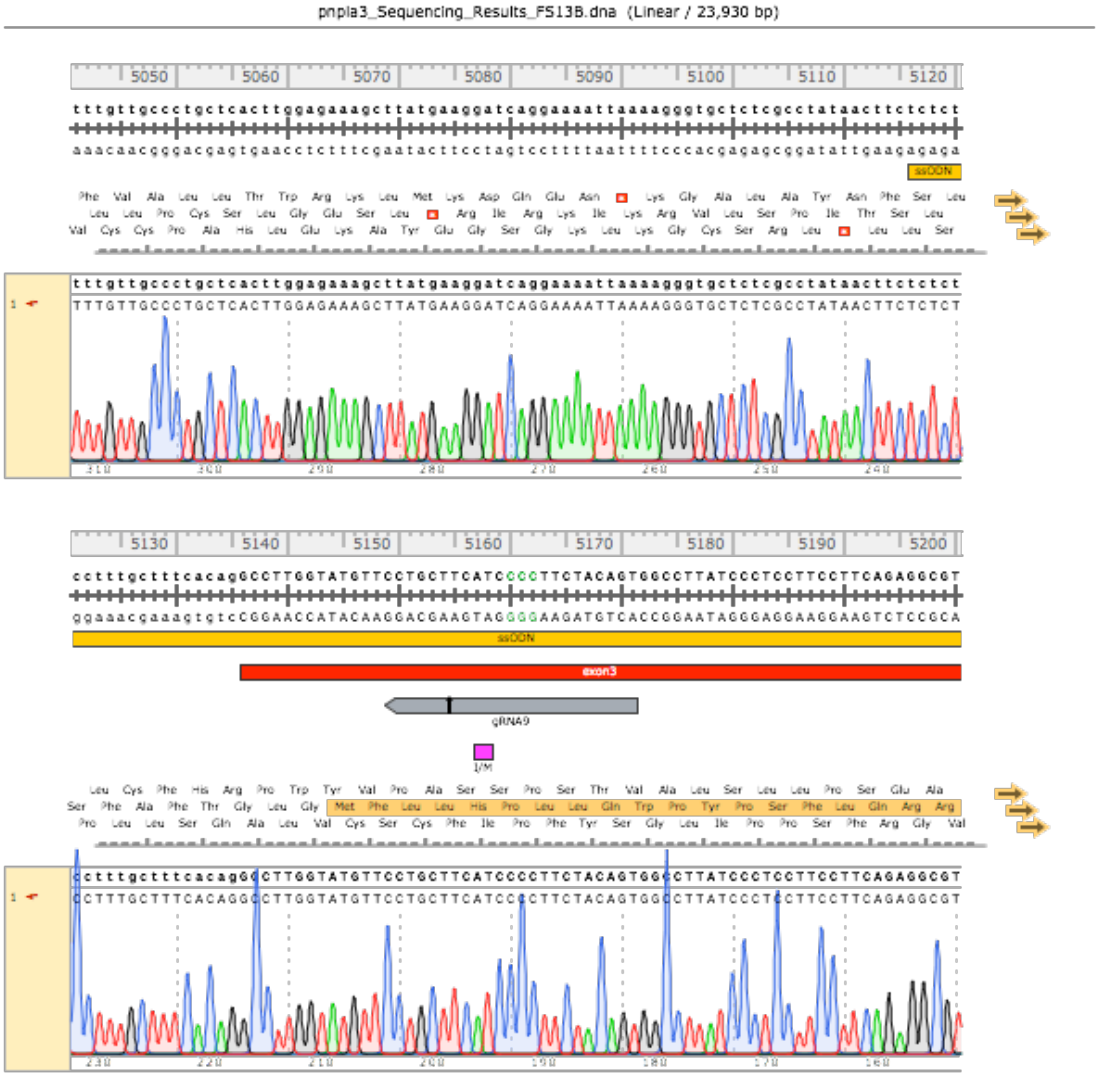

Figure 10.2 Sanger Sequence of FSPS13B Untargeted Control Clone #2

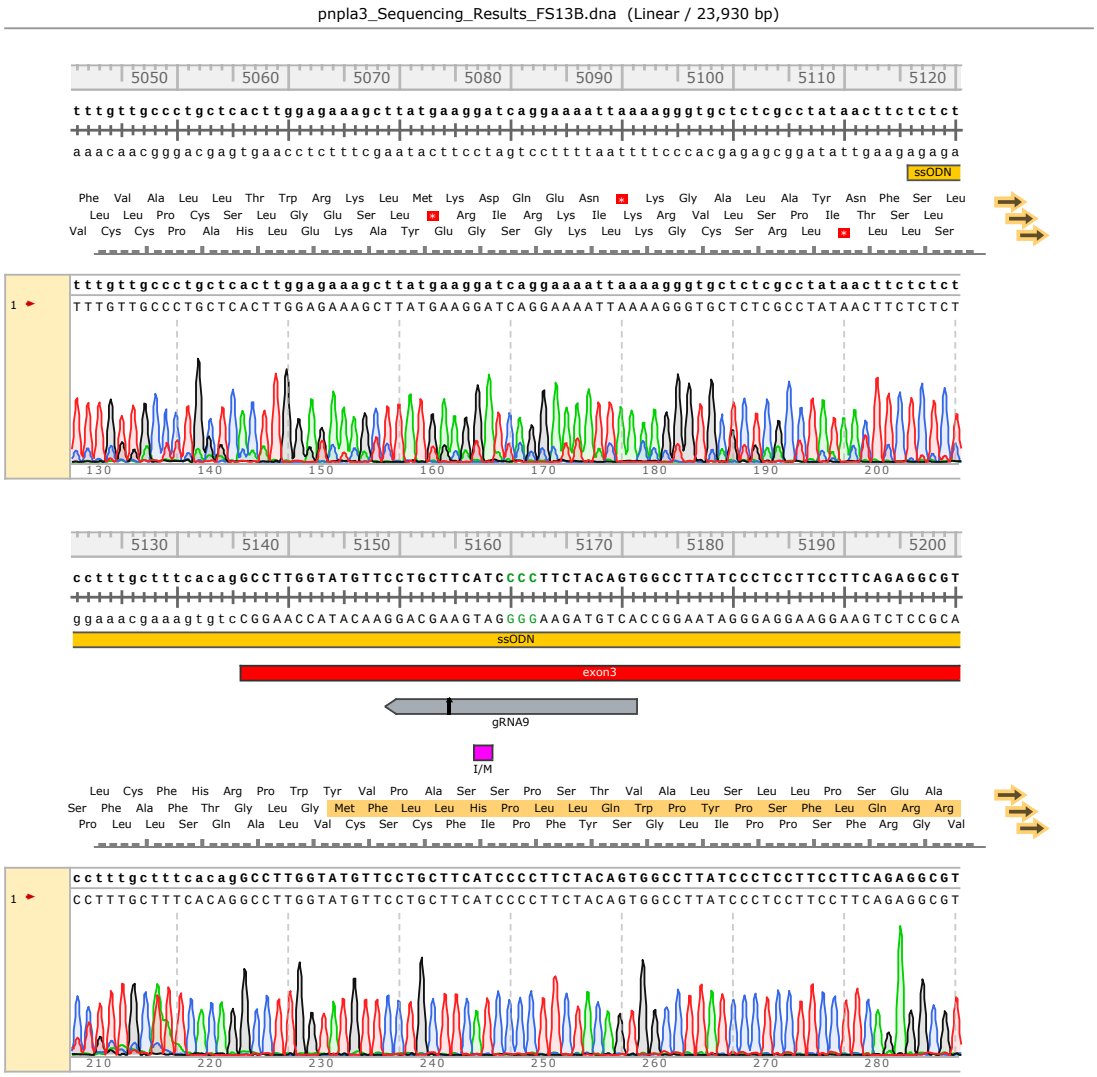

Figure 10.3 Sanger Sequence of FSPS13B I148M Clone #1

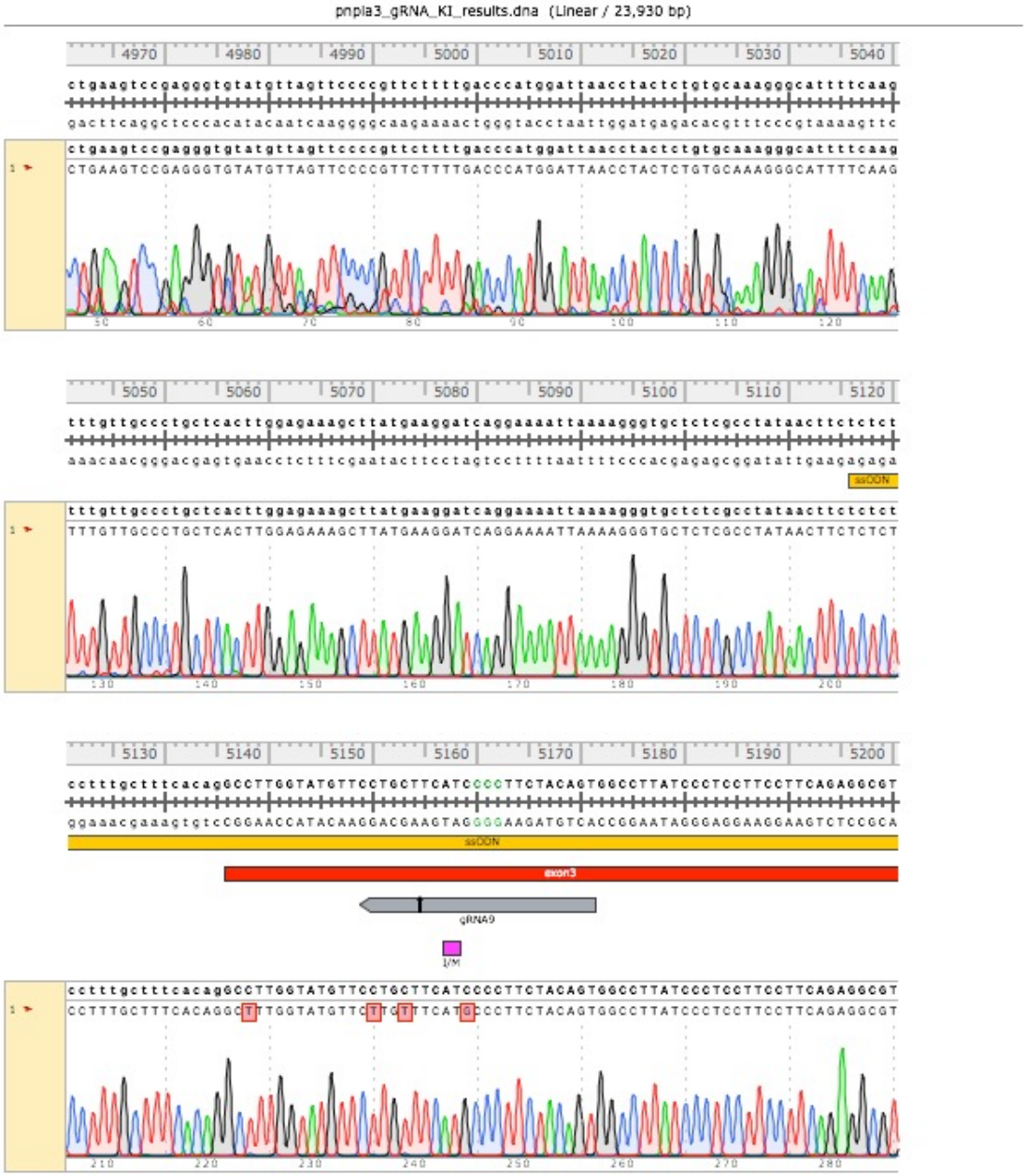

Figure 10.4 Sanger Sequence of FSPS13B I148M Clone #2

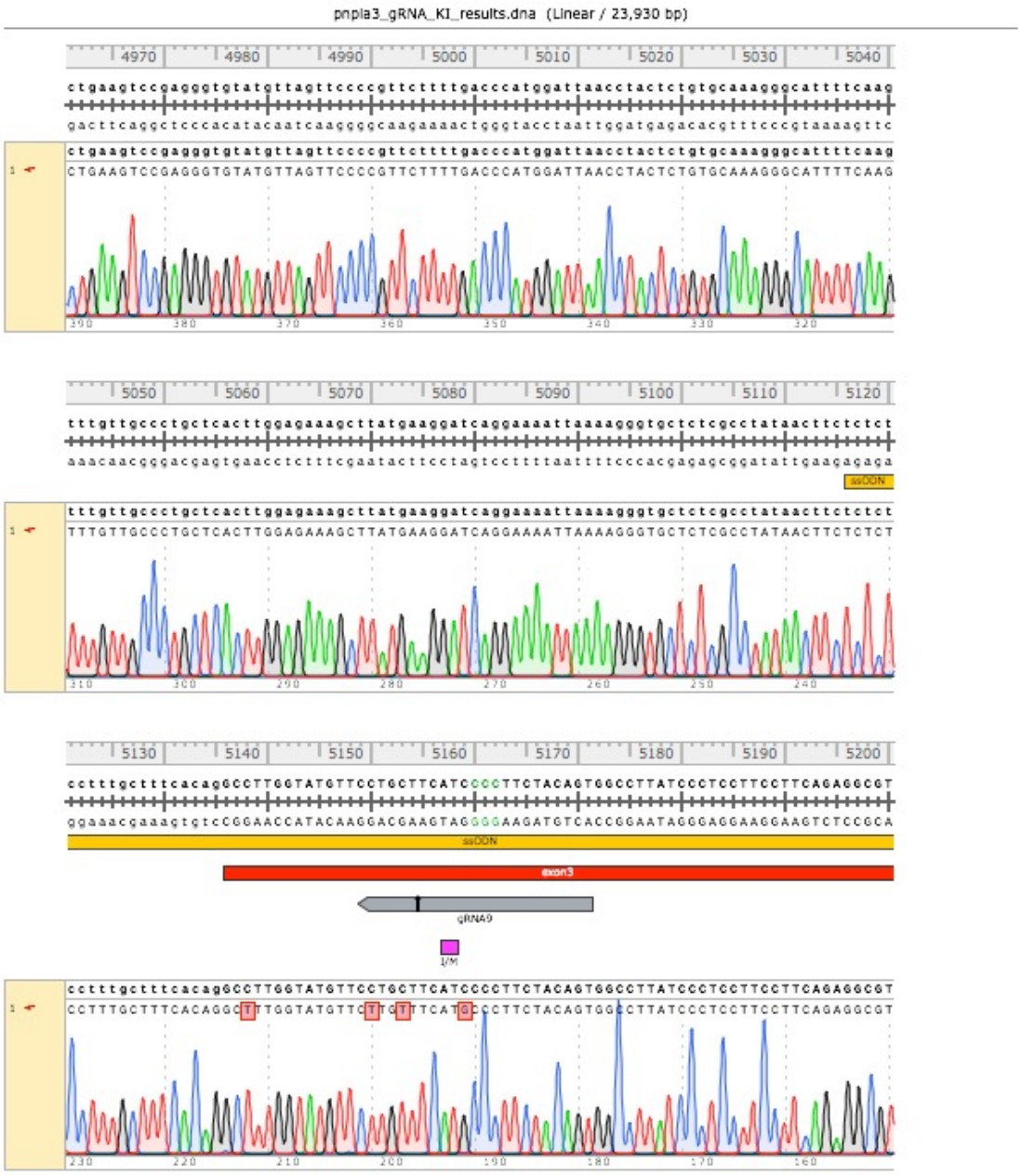

Figure 10.5 Sanger Sequence of FSPS13B Knock-Out Clone #1

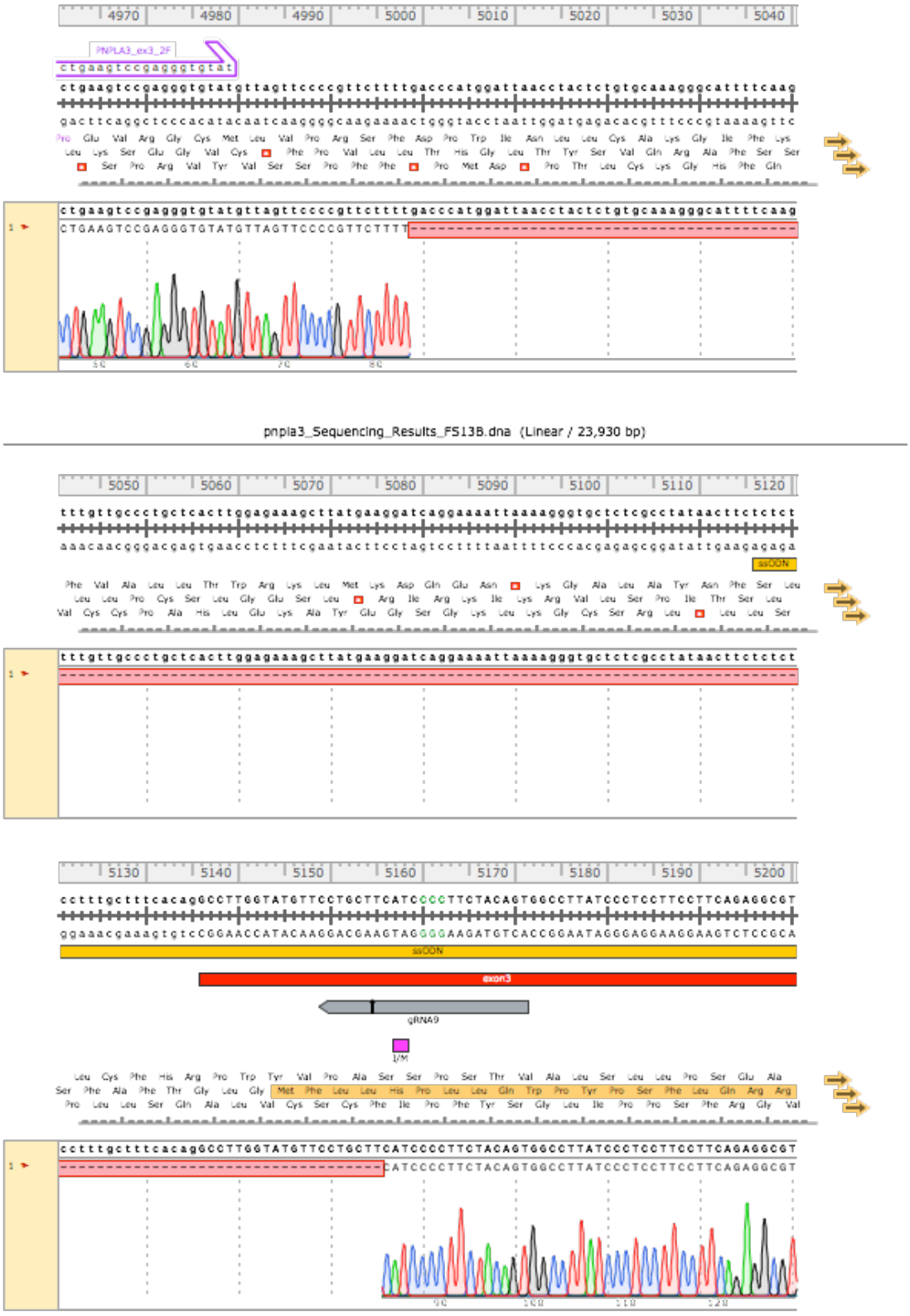

Figure 10.6 Sanger Sequence of FSPS13B Knock-Out Clone #2

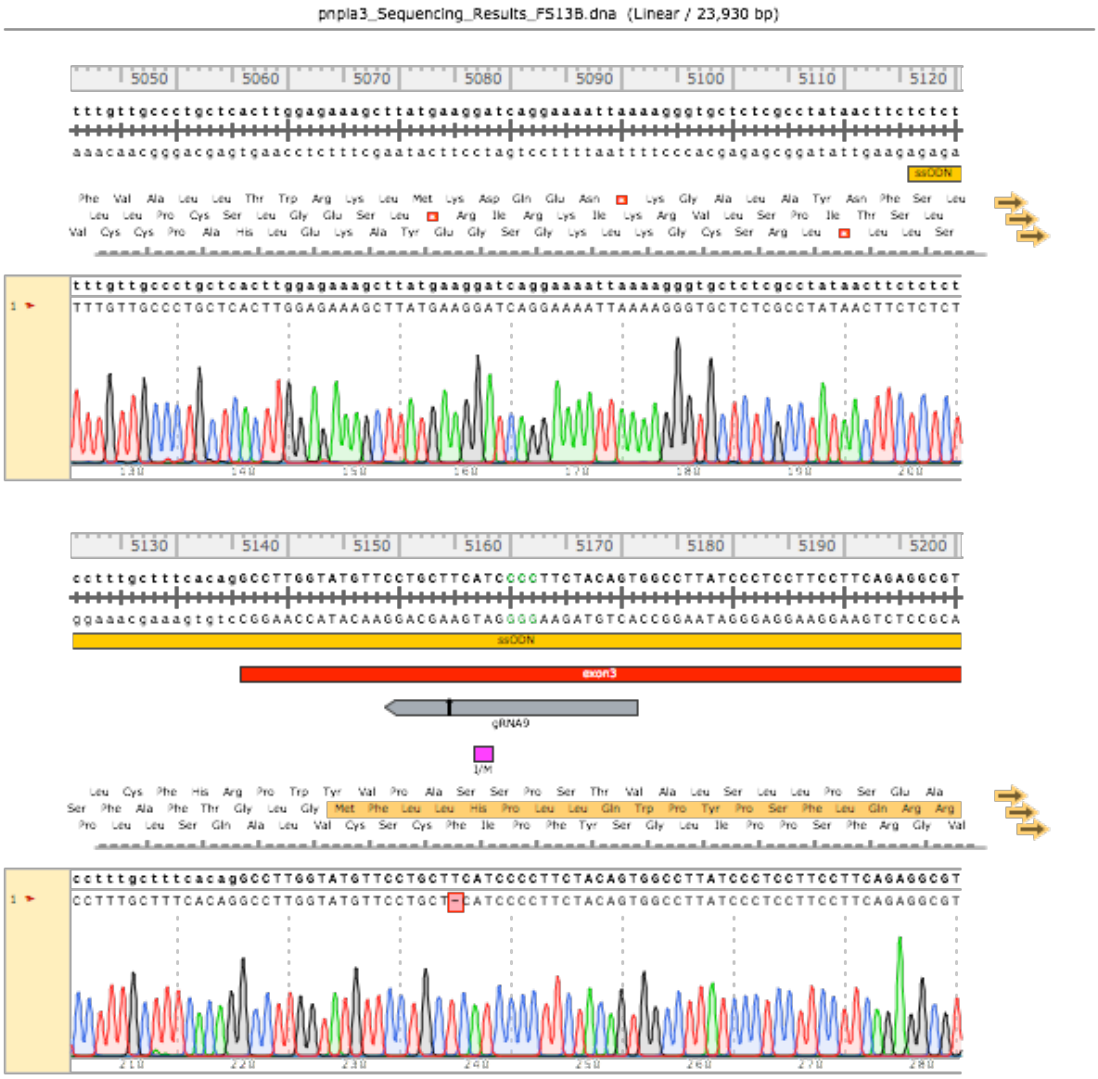

Figure 10.7 Sanger Sequence of FSPS13B Knock-Out Clone #3

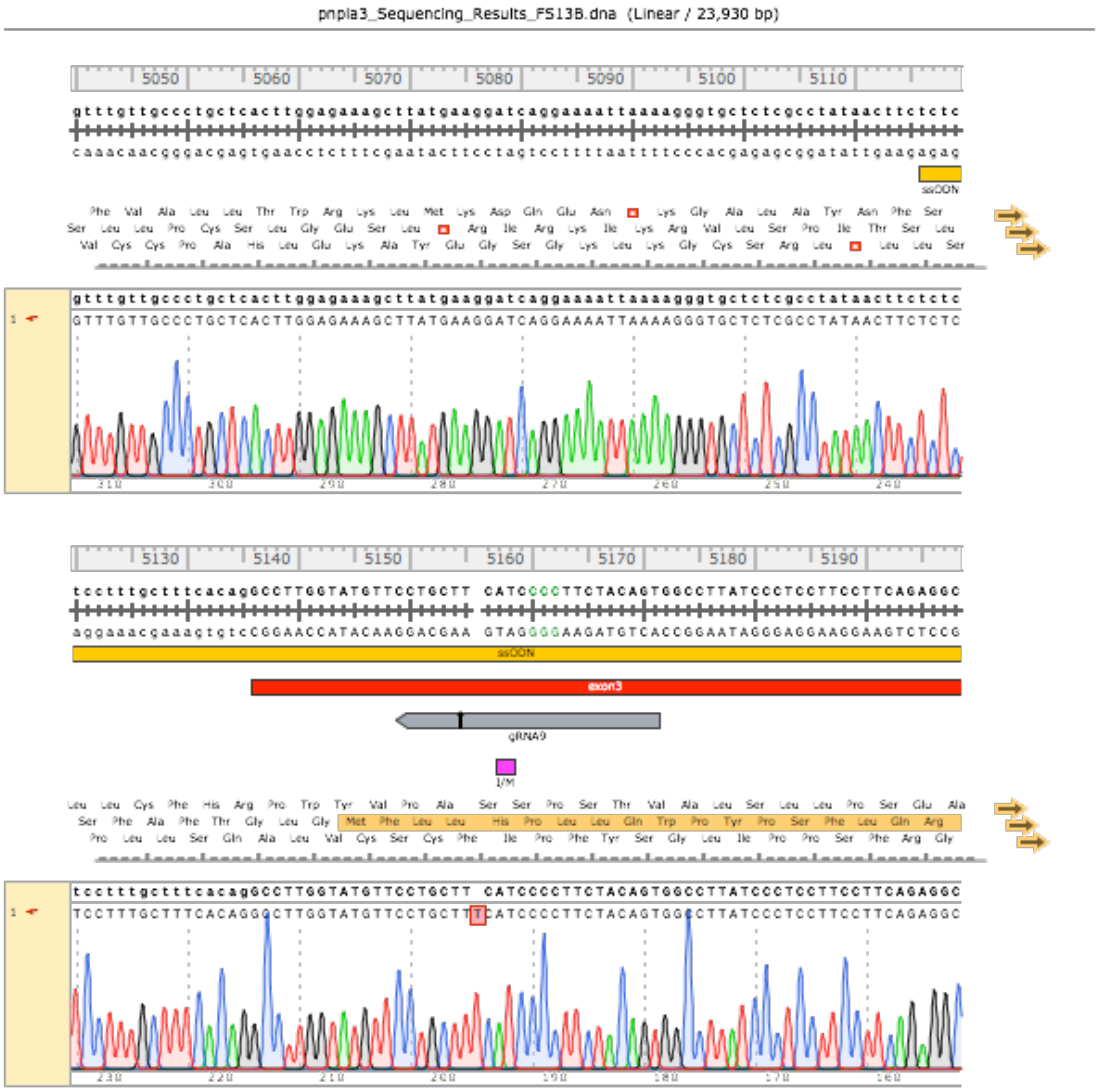

Figure 10.8 Sanger Sequence of A1ATDR/R Untargeted Control Clone #1

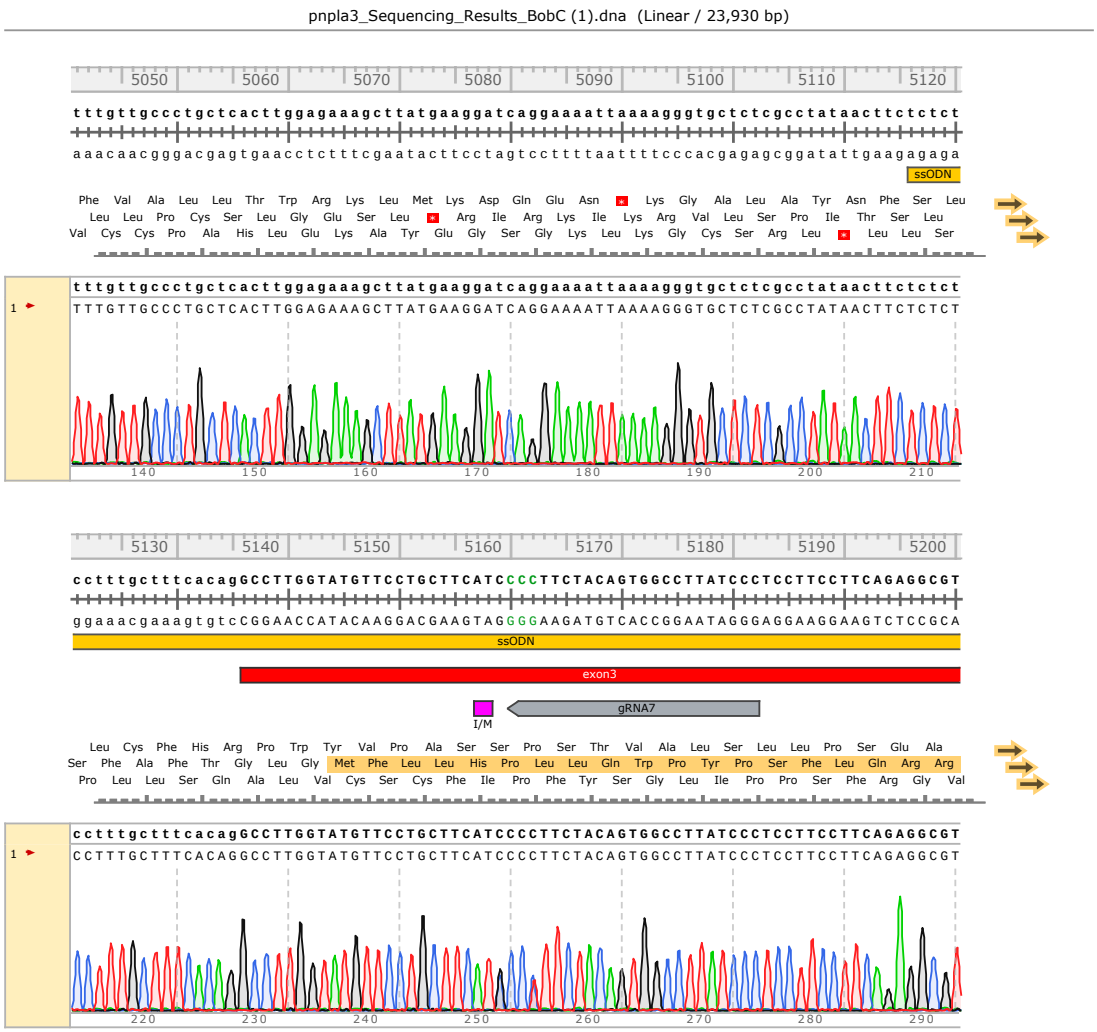

Figure 10.9 Sanger Sequence of A1ATDR/R Untargeted Control Clone #2

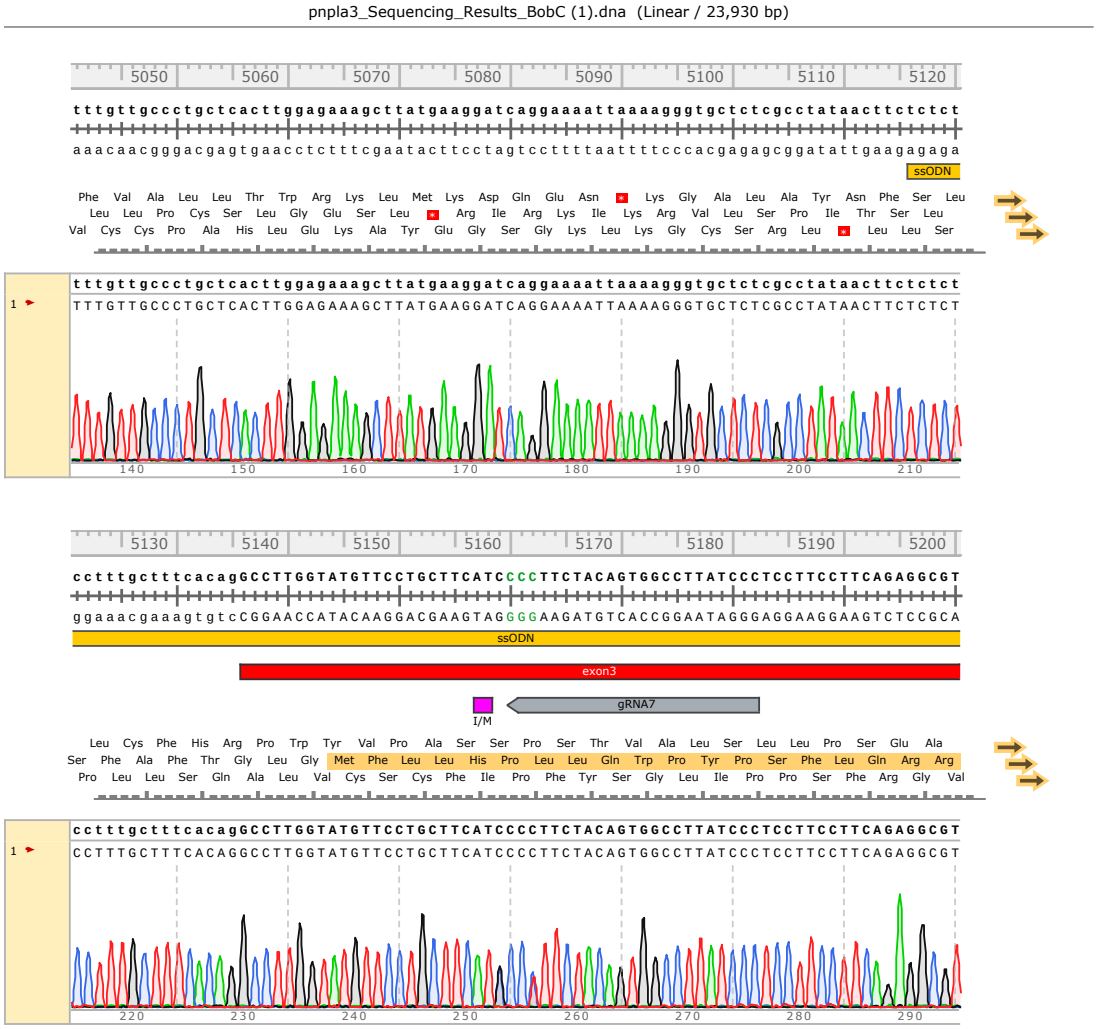

Figure 10.10 Sanger Sequence of A1ATDR/R I148M Clone #1

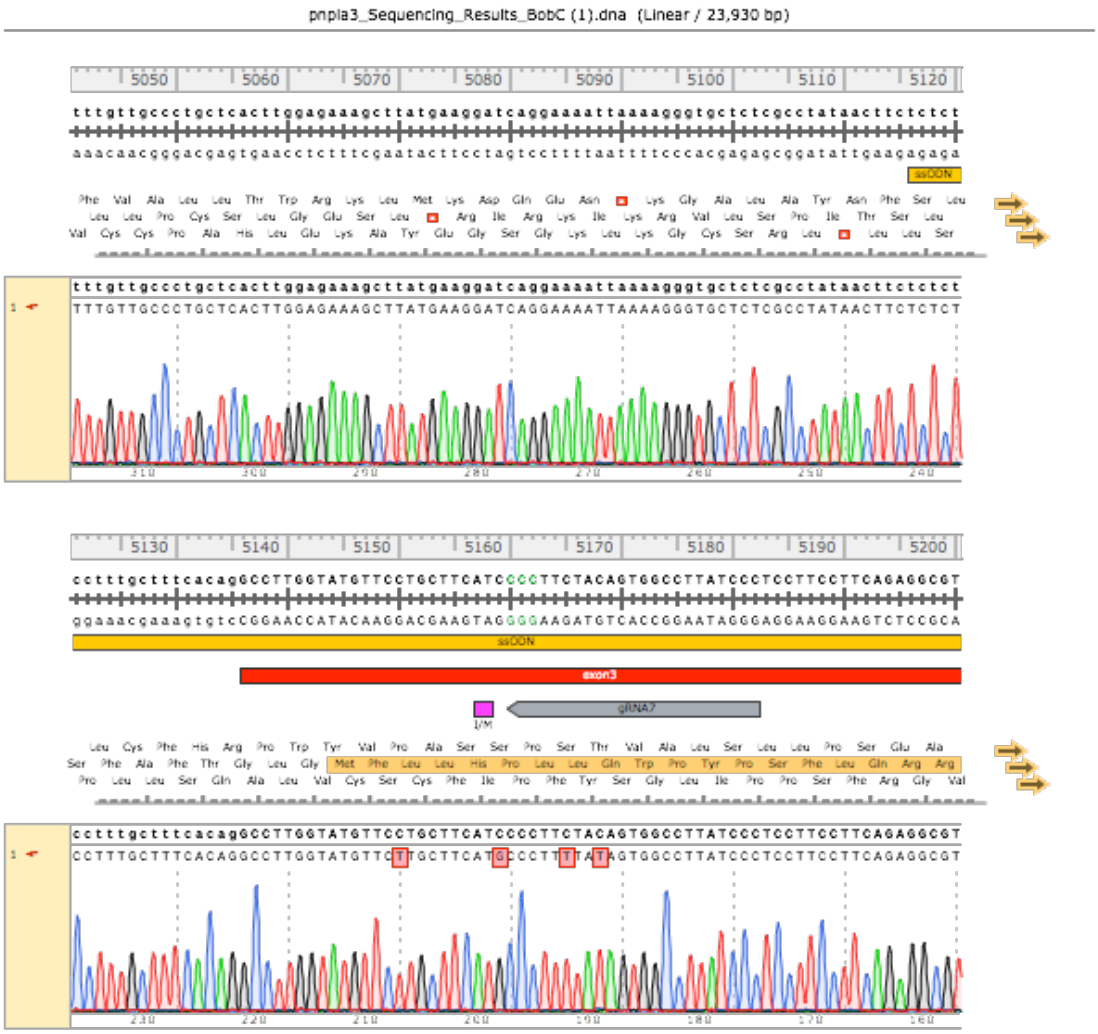

Figure 10.11 Sanger Sequence of A1ATDR/R Knock-Out Clone #1

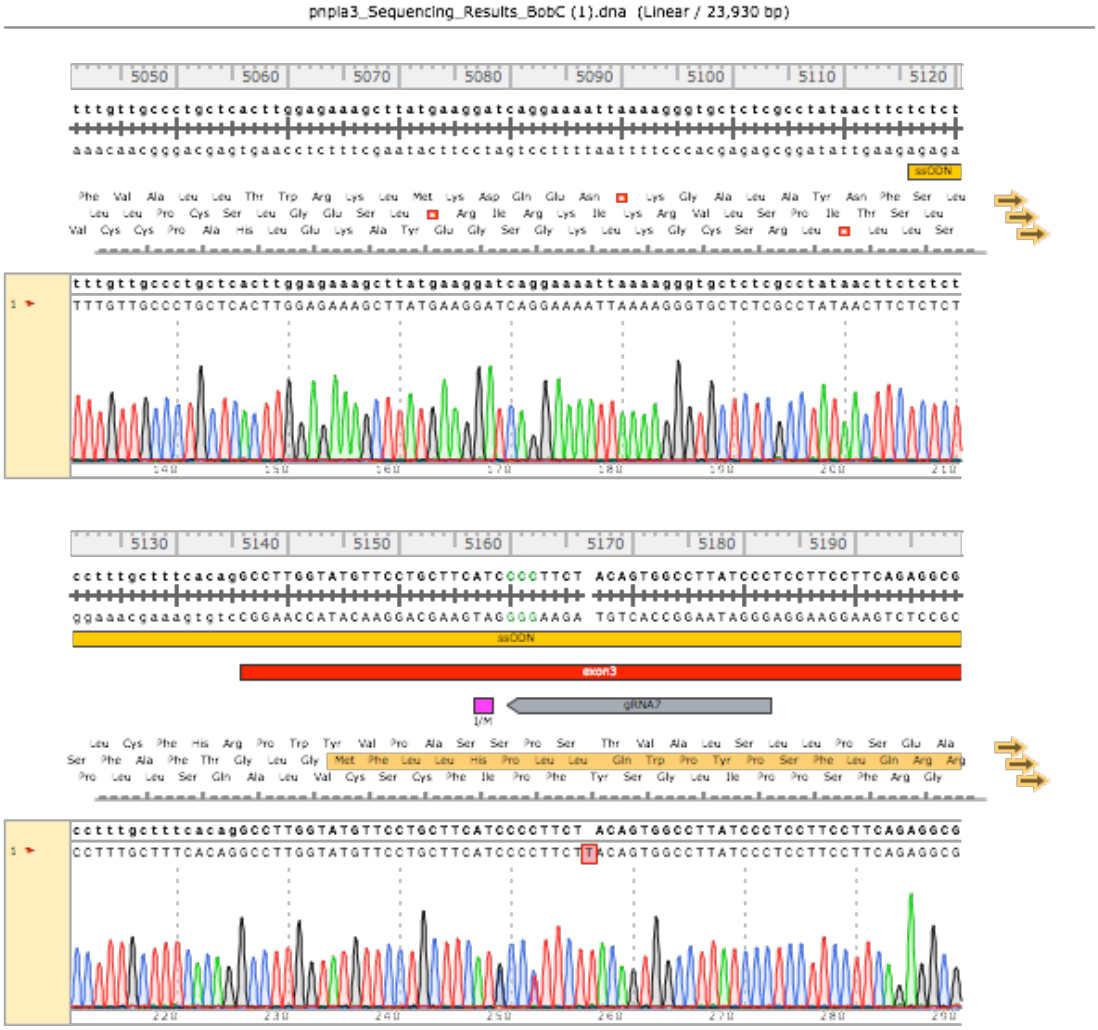

Figure 10.12 Sanger Sequence of A1ATDR/R Knock-Out Clone #2

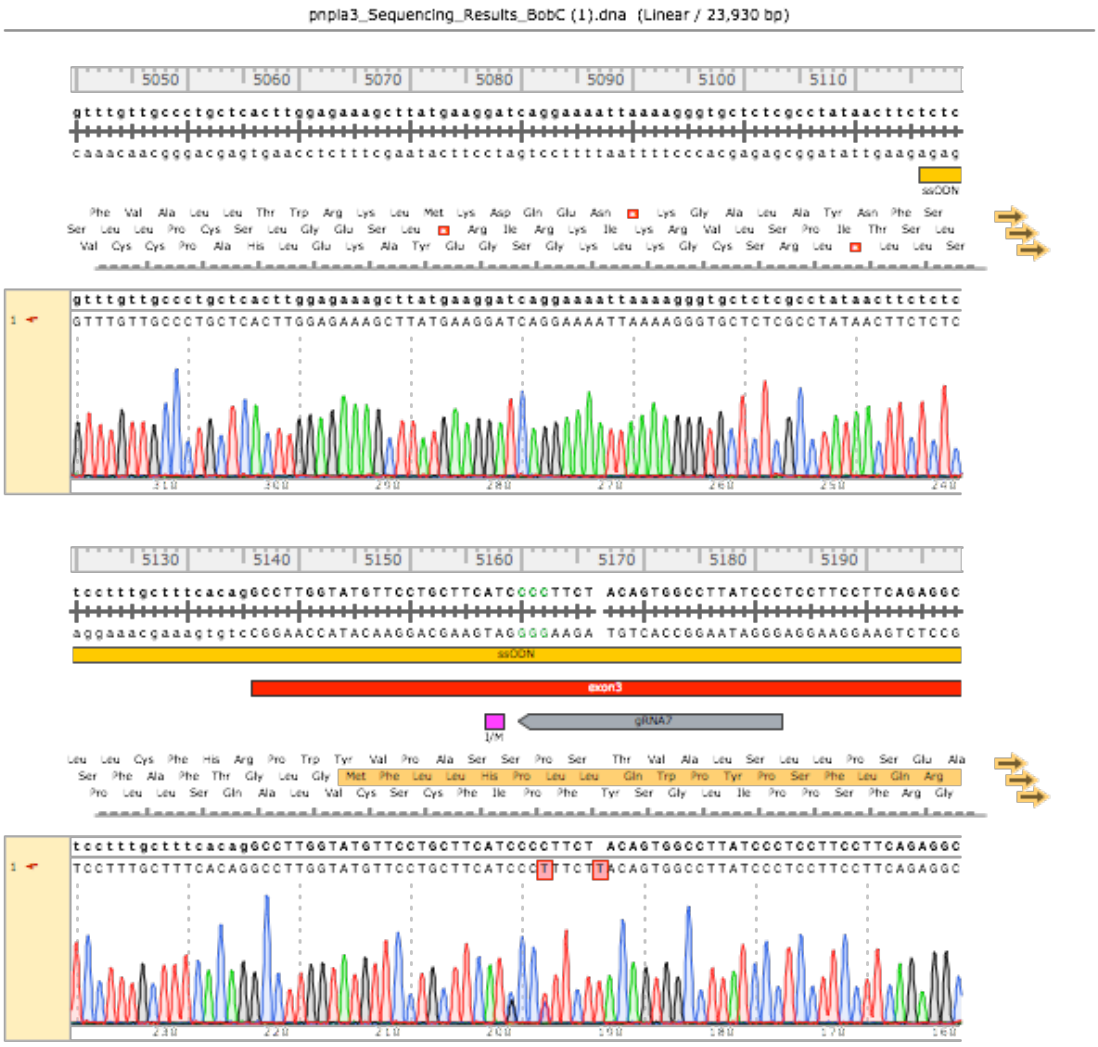

Table 10.1 List of differentially expressed genes between PNPLA3^{KO} and PNPLA3^{UC} Cells

Control			OA			PA		
Gene	LFC	FDR	Gene	LFC	FDR	Gene	LFC	FDR
TSPYL5	-7.981	2.8E-09	TSPYL5	-9.695	3.2E-04	TSPYL5	-9.754	5.2E-09
LRRC61	-7.960	2.1E-11	APCS	-7.667	1.5E-06	LRRC61	-8.391	5.0E-13
CRYAA	-7.106	6.8E-07	ACAN	-7.592	3.3E-02	APCS	-8.240	8.1E-11
CRP	-7.081	2.5E-11	LRRC61	-7.520	2.8E-07	PRSS3	-7.094	2.9E-07
AC026412.1	-6.938	4.4E-07		-6.993	3.0E-05	ZFP42	-6.975	1.1E-07
OAS3	-6.922	5.2E-08	CRP	-6.802	1.2E-07	CRP	-6.791	2.4E-08
CYP3A7	-6.716	1.6E-19	ZFP42	-6.733	1.1E-04	DES	-6.152	2.6E-07
APCS	-6.560	4.0E-05	OAS3	-6.481	2.4E-02	AC026412.1	-6.074	2.0E-05
PRSS3	-6.548	1.9E-06	IQCA1	-6.224	4.7E-04	AC116050.1	-5.873	1.8E-03
DES	-6.534	2.1E-07	DES	-6.117	4.7E-04	CYP3A7	-5.759	1.6E-08
CRYBA1	-6.425	4.8E-05	ADH1A	-5.964	1.3E-05	TXNRD2	-5.738	2.5E-06
IQCA1	-6.281	1.7E-05	LINC02701	-5.791	6.4E-03	ADH1A	-5.335	1.3E-08
CRABP1	-6.237	2.3E-05	CYP3A7	-5.773	9.9E-05	KCNJ5	-5.022	6.7E-10
ADH1A	-6.226	4.9E-11	PRSS3	-5.577	4.0E-05	BAAT	-4.712	4.2E-08
AC116050.1	-6.081	2.5E-05	PON3	-5.478	1.9E-02	CFHR2	-4.470	1.5E-18
CD248	-5.652	5.6E-06	CD248	-5.438	1.9E-04	CFHR1	-4.290	1.5E-53
AP000808.1	-5.488	4.8E-05	DCN	-5.422	1.7E-04	ANO9	-4.227	3.8E-04
SLCO1B1	-5.428	5.8E-08	CRABP1	-5.195	2.2E-03	ARHGAP40	-4.206	1.7E-02
ARHGAP40	-4.967	7.2E-05	BAAT	-5.114	4.7E-03	SLCO1B1	-4.052	2.9E-06
BAAT	-4.913	7.7E-09	TXNRD2	-4.938	2.4E-03	C9	-4.039	3.4E-20
ANO9	-4.752	3.3E-06	CFHR2	-4.837	5.9E-17	F9	-4.022	4.1E-37
SLC38A4	-4.730	4.1E-36	MFAP4	-4.740	1.3E-04	LOXL4	-4.016	8.3E-09
TXNRD2	-4.689	5.3E-04	POSTN	-4.737	3.2E-02	CYP2C8	-4.010	4.2E-17
THY1	-4.503	2.5E-04	PCDH18	-4.679	8.1E-03	ASPG	-3.959	2.0E-03
KCNJ5	-4.479	7.0E-07	ADH6	-4.574	7.2E-08	AP000808.1	-3.908	1.2E-03
DCN	-4.474	2.1E-08	BOC	-4.438	2.5E-04	PLAT	-3.902	1.3E-04
PDPN	-4.416	4.7E-05	THY1	-4.299	4.9E-02	ALDH4A1	-3.861	3.3E-09
ASPG	-4.404	5.3E-11	KCNJ5	-4.193	2.9E-08	ARG1	-3.777	7.7E-76
PLAT	-4.241	3.2E-06	DLK1	-4.170	9.0E-04	ADH6	-3.737	5.6E-11
CFHR2	-4.160	3.0E-20	PLAT	-4.161	2.1E-04	RARRES2	-3.710	3.0E-11
ATP2B2	-4.051	2.2E-09	LOXL4	-4.061	2.8E-03	G6PC	-3.581	8.6E-09
ADH6	-4.046	6.3E-13	CYP2C8	-4.009	1.9E-11	PKP3	-3.517	1.4E-05
G6PC	-3.974	5.0E-21	RARRES2	-4.002	1.1E-25	MX2	-3.511	3.9E-04

MX2	-3.947	1.6E-04	F9	-3.945	3.3E-06	SLC38A4	-3.435	1.7E-10
LOXL4	-3.923	5.4E-07	G6PC	-3.904	8.3E-04	ACVRL1	-3.346	8.2E-07
CFHR1	-3.878	1.5E-42	CFHR1	-3.853	5.6E-29	DCN	-3.287	1.2E-03
INHBE	-3.858	5.0E-38	ALDH4A1	-3.850	4.9E-06	ADAMTS2	-3.252	3.2E-04
PTX3	-3.831	5.6E-07	C9	-3.828	9.0E-12	ATP2B2	-3.184	2.9E-06
SVEP1	-3.786	1.5E-02	NPTX1	-3.810	4.1E-02	C11orf96	-3.058	1.6E-17
CYP2C8	-3.768	1.0E-16	ARHGAP40	-3.806	8.4E-03	AMN	-3.043	3.5E-07
POSTN	-3.758	8.1E-03	MX2	-3.683	1.4E-02	POSTN	-3.029	3.6E-02
C9	-3.732	1.6E-05	PKP3	-3.660	1.1E-02	CYP19A1	-3.028	7.0E-22
GALNT17	-3.659	3.5E-02	PTX3	-3.605	9.8E-05	ITIH3	-3.015	1.0E-07
ALDH4A1	-3.608	1.6E-09	ARG1	-3.566	5.5E-50	ALOX15B	-3.002	1.6E-03
RARRES2	-3.583	7.6E-35	CYP4A11	-3.532	4.0E-06	ACAN	-2.992	2.3E-02
COL11A1	-3.542	1.8E-03	COL3A1	-3.524	4.1E-03	PRG4	-2.952	1.0E-32
CSPG4	-3.500	2.7E-03	SLC38A4	-3.470	1.5E-22	HRG	-2.926	5.0E-13
SULF1	-3.483	2.7E-02	SOD3	-3.374	1.2E-04	SVEP1	-2.914	4.9E-03
ANTXR1	-3.462	1.1E-05	ITIH3	-3.353	6.2E-06	SLC22A9	-2.888	1.8E-06
ARG1	-3.458	2.0E-66	MMP9	-3.254	3.3E-03	SLC17A9	-2.882	1.4E-02
F9	-3.428	1.1E-23	F11	-3.101	3.6E-10	PTX3	-2.874	5.7E-06
COL3A1	-3.375	8.8E-05	PRG4	-3.081	9.4E-18	SCARA3	-2.846	3.1E-08
HRG	-3.312	6.5E-23	TRPV2	-3.015	4.7E-04	SOD3	-2.844	3.4E-07
COL1A2	-3.290	3.2E-02	SLC22A9	-2.964	4.8E-17	ARC	-2.828	6.8E-10
GPM6B	-3.263	6.5E-05	AMN	-2.935	1.1E-03	DLK1	-2.791	1.1E-02
C4BPA	-3.253	3.0E-22	SCARA3	-2.922	3.2E-07	INHBE	-2.756	1.0E-12
PRG4	-3.241	4.0E-19	ANTXR1	-2.878	5.1E-03	UCP2	-2.745	6.0E-09
ITIH3	-3.221	1.1E-10	SVEP1	-2.868	4.8E-03	IGDCC3	-2.688	6.4E-03
CYP19A1	-3.167	2.7E-29	CYP19A1	-2.805	3.3E-12	KLKB1	-2.684	4.8E-20
DLK1	-3.157	2.1E-03	SCUBE3	-2.764	2.6E-02	TRIML2	-2.663	1.2E-03
PKP3	-3.127	4.8E-03	ADAMTS2	-2.760	2.6E-02	NTS	-2.654	1.1E-06
F11	-3.122	1.5E-16	ACOT12	-2.742	1.2E-12	HHEX	-2.618	1.4E-17
ACVRL1	-3.076	1.5E-02	KLKB1	-2.733	2.7E-14	APBB1IP	-2.575	1.5E-07
AMN	-3.034	6.4E-06	TTPA	-2.706	1.5E-08	GLYATL1	-2.528	6.8E-09
NTS	-2.928	6.0E-07	NTS	-2.705	3.8E-03	CDO1	-2.526	1.7E-15
MMP2	-2.802	2.7E-03	C4BPA	-2.692	2.9E-10	PCDHGA10	-2.523	4.5E-05
SLC22A9	-2.793	3.1E-15	IAPP	-2.658	2.4E-05	TNFAIP2	-2.485	1.3E-05
SCARA3	-2.779	1.5E-11	LUM	-2.656	2.2E-07	F13B	-2.484	5.9E-17
SLC17A9	-2.752	6.4E-03	GLYATL1	-2.565	1.8E-06	F11	-2.479	3.4E-10
SNED1	-2.714	1.5E-04	LYZ	-2.526	2.1E-02	C4BPA	-2.458	7.6E-14
SLC17A2	-2.689	9.8E-20	LIPC	-2.505	2.8E-33	NR4A3	-2.420	1.2E-06
KLKB1	-2.676	9.9E-25	CDO1	-2.495	2.8E-13	MMP10	-2.409	1.3E-21
CDO1	-2.676	3.4E-19	EMILIN1	-2.482	1.4E-05	COL3A1	-2.389	3.1E-02

EMILIN1	-2.664	9.5E-05	HHEX	-2.469	1.2E-14	MMP2	-2.381	7.0E-03
TTPA	-2.664	2.3E-14	GC	-2.444	3.4E-06	VNN3	-2.352	4.7E-11
GLYATL1	-2.624	3.4E-09	F13B	-2.399	1.4E-10	CFHR3	-2.342	4.6E-14
ALOX15B	-2.615	1.7E-03	EPO	-2.386	3.4E-13	MT1H	-2.340	9.8E-04
COL9A3	-2.601	1.7E-02	CPB2	-2.379	2.1E-04	IGFBP1	-2.245	7.8E-09
EPO	-2.598	9.6E-30	HRG	-2.350	1.0E-05	LIPC	-2.241	2.4E-27
CACNA1E	-2.542	5.6E-11	ACSM2A	-2.322	7.2E-07	GC	-2.217	7.8E-08
MRC2	-2.540	9.1E-07	KNG1	-2.253	5.6E-29	ANTXR1	-2.213	1.8E-03
DPPA4	-2.539	4.5E-06	ITIH1	-2.188	5.8E-10	UGT2B4	-2.178	1.1E-10
LIPC	-2.520	2.4E-48	PAH	-2.188	8.6E-20	MRC2	-2.177	3.3E-09
OXTR	-2.498	3.5E-02	UGT2B4	-2.145	1.8E-08	PAH	-2.176	3.8E-20
LRRC32	-2.468	2.0E-02	INHBE	-2.132	1.3E-03	ITIH1	-2.130	1.5E-35
PALMD	-2.461	2.5E-06	ITIH2	-2.117	7.8E-30	C8B	-2.128	1.3E-38
SOD3	-2.420	1.3E-06	C1S	-2.099	1.2E-07	NR4A1	-2.116	6.0E-20
CPXM1	-2.398	4.6E-06	LGALS1	-2.089	4.6E-03	TTPA	-2.110	1.7E-08
CFHR3	-2.360	3.8E-13	ALDH8A1	-2.067	5.5E-09	SERPINA6	-2.098	6.8E-09
PCDHGA10	-2.353	1.8E-04	CACNA1E	-2.055	1.5E-04	LUM	-2.092	1.3E-10
SLC25A18	-2.349	2.3E-16	C8B	-2.047	1.2E-28	CGREF1	-2.092	1.6E-08
HHEX	-2.336	1.9E-15	SERPINI1	-2.021	8.6E-17	COL11A1	-2.066	3.2E-02
ITIH1	-2.297	3.0E-31	C8A	-1.999	4.1E-12	KNG1	-2.020	7.5E-13
MXRA8	-2.286	3.8E-03	ACSM2B	-1.980	1.9E-11	C8A	-2.007	2.5E-26
TNFAIP2	-2.272	3.2E-02	AADAC	-1.973	3.5E-05	CPB2	-1.993	7.5E-17
C1S	-2.270	9.2E-16	APOA5	-1.959	4.6E-14	LGALS1	-1.960	9.7E-05
GC	-2.240	9.1E-09	SERPINA6	-1.940	6.1E-20	GSDMD	-1.943	2.0E-02
CPB2	-2.205	2.5E-22	AKR1B10	-1.927	3.8E-03	SLC17A2	-1.939	8.4E-18
PAH	-2.190	1.0E-16	APOH	-1.907	3.7E-27	APOH	-1.933	3.1E-32
SPON2	-2.186	4.8E-02	TFR2	-1.895	9.3E-05	C1S	-1.892	1.8E-08
KNG1	-2.182	5.8E-33	C1R	-1.887	7.9E-04	ITIH2	-1.892	1.1E-26
GSDMD	-2.170	3.0E-02	SLC17A2	-1.869	2.0E-08	TRIM4	-1.856	3.2E-08
ACOT12	-2.123	1.1E-15	AMBP	-1.868	3.5E-08	S100A9	-1.854	5.5E-08
C8B	-2.111	1.2E-62	NIBAN1	-1.863	9.6E-09	AMBP	-1.845	5.9E-33
AC080128.1	-2.077	4.1E-03	ORM2	-1.829	5.4E-10	SPON2	-1.839	2.6E-02
SERPINA6	-2.068	2.5E-41	SLC25A18	-1.819	3.6E-05	EPO	-1.816	4.7E-10
ITIH2	-2.067	1.1E-21	SDR16C5	-1.796	1.7E-05	HSPA6	-1.811	2.7E-04
CXCL17	-2.045	4.8E-16	GMPR	-1.789	1.0E-05	AL355075.4	-1.792	1.5E-03
APOA5	-2.026	5.7E-15	TRIM4	-1.763	1.1E-04	C1R	-1.790	1.3E-05
UGT2B4	-2.025	2.0E-15	GFRA1	-1.757	2.4E-02	ACSM2B	-1.775	6.8E-10
LYZ	-1.967	1.7E-02	S100A9	-1.717	2.5E-06	BCL2A1	-1.759	1.9E-07
C8A	-1.961	7.3E-27	AKR1D1	-1.713	9.4E-18	FOSB	-1.759	8.8E-11
F13B	-1.960	1.0E-08	FBP1	-1.711	1.3E-08	CXCL12	-1.758	4.1E-02

CYP39A1	-1.949	5.6E-09	NT5E	-1.708	4.9E-06	PCK1	-1.753	1.5E-03
AKR1D1	-1.863	1.8E-14	TFF2	-1.702	2.2E-05	FBP1	-1.715	1.3E-13
MT1H	-1.860	4.7E-02	MT1L	-1.647	9.1E-12	ZNF331	-1.714	4.2E-16
GFRA1	-1.849	6.5E-12	GALNT5	-1.640	3.6E-06	LYZ	-1.710	9.1E-03
ACSM2A	-1.826	1.8E-05	OTC	-1.602	3.9E-05	DNAJA4	-1.694	3.9E-02
ALDH8A1	-1.800	1.1E-10	F12	-1.540	2.0E-02	TFF2	-1.687	2.3E-08
C1R	-1.797	1.0E-05	CFH	-1.528	1.1E-05	F12	-1.672	8.9E-14
CXCL12	-1.766	1.7E-02	SLC22A7	-1.500	1.4E-10	PCSK9	-1.660	8.6E-32
ORM2	-1.762	5.8E-16	ACSL4	-1.498	2.1E-37	DNAJB4	-1.654	2.6E-16
SERPINI1	-1.757	5.2E-18	SERPINC1	-1.465	1.7E-18	ACOT12	-1.653	3.6E-08
APOH	-1.748	1.8E-29	MMP10	-1.463	1.8E-04	AADAC	-1.650	8.0E-07
LUM	-1.725	2.6E-06	TM4SF4	-1.453	8.1E-03	CTH	-1.623	1.3E-21
MCAM	-1.720	4.8E-02	ATF5	-1.429	2.3E-02	ZNF165	-1.616	1.3E-16
S100A9	-1.716	2.0E-08	CPN1	-1.426	6.1E-03	MYH4	-1.590	3.0E-21
SLC38A3	-1.703	4.7E-22	SERPINA11	-1.422	3.5E-11	DDIT3	-1.583	1.3E-21
AMBP	-1.692	4.2E-39	SERPINA10	-1.418	3.3E-12	ORM2	-1.560	8.5E-10
ACSM2B	-1.669	2.2E-12	ORM1	-1.417	1.6E-13	OTC	-1.550	1.8E-05
GALNT5	-1.624	4.7E-14	MAT1A	-1.411	8.1E-26	AGR2	-1.542	6.0E-06
SLC22A7	-1.619	7.4E-18	CROT	-1.411	6.9E-05	S100A6	-1.534	5.6E-03
FAM129A	-1.616	5.4E-13	SERPING1	-1.410	1.8E-03	GALNT5	-1.517	4.5E-07
C3	-1.608	2.7E-14	C3	-1.392	9.5E-04	VASN	-1.516	1.6E-08
AADAC	-1.602	2.1E-11	APOA2	-1.385	2.5E-15	AKR1B10	-1.502	6.0E-03
TRIM4	-1.598	9.8E-06	IGFBP1	-1.385	1.3E-11	PTGS2	-1.500	1.2E-05
FBN1	-1.568	2.7E-02	NNMT	-1.378	2.6E-02	ALDH8A1	-1.497	3.0E-08
FBP1	-1.550	1.4E-13	AGR2	-1.351	9.2E-07	AKR1D1	-1.465	2.2E-13
NPW	-1.550	2.9E-05		-1.344	5.7E-11	CHAC1	-1.451	3.1E-08
CSF3R	-1.544	2.8E-09	AFM	-1.316	2.3E-03	MT1L	-1.442	2.2E-18
CFH	-1.519	2.8E-14	LRG1	-1.312	7.3E-09	GFRA1	-1.442	4.1E-03
F12	-1.466	6.8E-11	LBP	-1.310	2.9E-04	AKR1C2	-1.438	2.3E-08
COL5A2	-1.455	9.8E-04	MT1A	-1.307	2.3E-07	HBEGF	-1.426	2.4E-04
SERPINA11	-1.443	9.1E-18	METTL7A	-1.306	5.5E-13	C3	-1.419	3.2E-07
SERPINC1	-1.430	1.4E-19	FABP1	-1.297	1.1E-03	ANXA1	-1.418	1.1E-03
ACSL4	-1.423	2.3E-31	SGK2	-1.297	6.0E-06	CXCL17	-1.417	1.7E-02
MAT1A	-1.419	1.4E-25	NDUFAF1	-1.297	3.3E-05	SLC25A18	-1.405	2.1E-05
SERPING1	-1.417	4.7E-12	MBL2	-1.283	8.3E-10	ATF3	-1.401	8.2E-04
ITPR2	-1.402	2.1E-15	ITPR2	-1.277	1.8E-08	SERPINA11	-1.399	3.4E-11
TFF2	-1.387	2.0E-16	HMGCS2	-1.272	7.9E-11	SERPINC1	-1.391	2.9E-18
PNPLA3	-1.378	4.4E-07	CXCL17	-1.271	3.2E-06	SERPINI1	-1.378	4.6E-19
LRG1	-1.366	3.0E-21	ACSL1	-1.270	8.9E-16	SLC22A7	-1.377	1.1E-15
NT5E	-1.359	1.0E-03	F5	-1.263	3.5E-08	APOA5	-1.372	3.4E-10

MYH4	-1.339	1.8E-17	HAO2	-1.263	5.8E-07	PNPO	-1.370	8.4E-05
ATF5	-1.328	3.0E-03	DHODH	-1.246	4.9E-06	SERPING1	-1.363	1.2E-05
F5	-1.322	4.1E-08	OLFML3	-1.235	3.9E-06	PMAIP1	-1.354	1.6E-11
CROT	-1.317	1.7E-06	CPM	-1.230	1.5E-02	CPN1	-1.353	3.0E-03
IGFBP1	-1.316	5.8E-05	ANGPTL3	-1.229	3.9E-12	ORM1	-1.349	6.7E-06
OLFML3	-1.288	8.1E-06	CSF3R	-1.222	7.7E-06	MT1G	-1.347	1.8E-02
LBP	-1.281	1.1E-16	COL5A2	-1.221	2.9E-02	KATNBL1	-1.345	5.6E-15
MTSS1L	-1.275	7.4E-18	CBR4	-1.221	1.0E-07	HSPH1	-1.336	4.1E-13
PDGFRB	-1.268	2.6E-02	FGL1	-1.217	1.3E-20	CKS2	-1.336	2.2E-12
MBNL3	-1.265	5.4E-14	AKR1C1	-1.209	1.4E-08	ELOVL5	-1.321	1.2E-20
PCK1	-1.264	1.1E-03	SLC38A3	-1.199	1.8E-10	TOR4A	-1.314	1.2E-03
PNPO	-1.257	1.0E-03	ACAT1	-1.199	9.1E-16	AKR1C1	-1.305	8.1E-12
PEG10	-1.241	2.2E-13	PCK1	-1.191	8.7E-04	NT5E	-1.289	2.8E-03
PCSK9	-1.227	6.3E-19	FGG	-1.187	2.2E-17	ACSL4	-1.288	1.4E-29
SERPINA10	-1.224	4.0E-11	NDRG2	-1.168	4.9E-07	COL1A1	-1.271	1.6E-02
CCDC80	-1.210	4.3E-02	MYLK	-1.165	4.5E-02	RMRP	-1.258	1.7E-02
NDRG2	-1.190	7.0E-13	MBNL3	-1.157	5.4E-13	CFH	-1.252	1.4E-15
MT1L	-1.185	2.1E-07	ENPP2	-1.152	2.2E-15	PNPLA3	-1.251	2.6E-13
ACAT1	-1.180	4.0E-29	AOX1	-1.121	2.4E-09	CSF3R	-1.250	7.2E-08
MAP1A	-1.173	1.2E-09	MT1B	-1.109	2.3E-04	ITPR2	-1.244	4.6E-13
METTL7A	-1.167	4.3E-16	STEAP1	-1.107	7.7E-07	LRG1	-1.204	1.3E-12
ACSS2	-1.165	1.3E-21	FGA	-1.099	5.1E-17	LIPG	-1.200	1.6E-25
FGA	-1.163	1.4E-39	PEG10	-1.099	2.4E-09	CYTOR	-1.199	2.9E-10
HAO2	-1.160	5.9E-10	ANG	-1.097	3.8E-13	TM4SF4	-1.192	1.9E-04
IGF2	-1.134	3.2E-13	MTSS2	-1.096	5.9E-12	SERPINA10	-1.190	3.8E-17
MATN2	-1.134	3.9E-02	TTC39C	-1.094	7.0E-12	ACAT1	-1.188	2.1E-24
AC115619.1	-1.128	7.3E-10	HADHB	-1.092	9.1E-12	SELENOK	-1.185	3.3E-16
ITGA1	-1.114	9.2E-06	VSIG1	-1.091	4.4E-02	OLFML3	-1.183	2.1E-13
ANG	-1.108	7.0E-14	PCCB	-1.083	2.8E-08	ZFAND2A	-1.165	1.8E-16
ALB	-1.105	1.8E-02	MPC1	-1.073	4.6E-07	ATF5	-1.164	1.7E-02
FGG	-1.104	5.8E-31	PNPLA3	-1.072	7.2E-07	MTSS1L	-1.152	1.1E-14
PC	-1.080	8.8E-16	TIMP1	-1.066	2.5E-02	APOA2	-1.149	3.1E-17
CLMN	-1.073	2.8E-02	HPX	-1.059	1.1E-11	MAT1A	-1.149	2.4E-27
MBL2	-1.072	1.1E-10	S100P	-1.058	1.3E-04	SLC38A3	-1.144	4.8E-11
ORM1	-1.071	1.1E-07	TM4SF5	-1.032	1.2E-04	NNMT	-1.134	3.7E-03
CYP8B1	-1.061	5.9E-07	FGB	-1.021	2.7E-14	AFM	-1.117	2.7E-04
AOX1	-1.047	4.2E-11	NADK2	-1.007	4.0E-10	SNAI2	-1.106	2.9E-06
ENPP2	-1.045	2.1E-16	ITGA1	-1.007	6.9E-06	NOCT	-1.105	7.8E-07
VSIG1	-1.044	1.6E-07	PC	-1.003	4.2E-12	MT1A	-1.104	1.2E-07
LSS	-1.043	1.7E-18	GPX3	-0.995	1.9E-11	GDF15	-1.101	6.1E-09

TNFRSF10C	-1.031	1.5E-03	HSD17B4	-0.981	2.7E-14	LBP	-1.096	3.5E-10
AMOT	-1.024	2.7E-02	CXXC5	-0.980	3.1E-04	BAG3	-1.092	2.9E-12
PIK3AP1	-1.007	5.0E-09	APOC1	-0.971	2.2E-10	BTG2	-1.090	5.8E-15
MT1A	-0.999	1.4E-06	CYB5A	-0.966	4.1E-07	HAO2	-1.062	3.9E-12
NADK2	-0.993	3.2E-25	CA2	-0.963	2.2E-05	AGTR1	-1.044	4.5E-19
ACSL1	-0.992	1.7E-13	ATP11C	-0.937	4.9E-04	ANGPTL3	-1.038	8.0E-12
AFM	-0.990	1.8E-05	HP	-0.925	6.5E-11	METTL7A	-1.031	4.2E-06
C6	-0.988	1.0E-09	DPYD	-0.909	1.2E-06	CCL20	-1.030	3.1E-07
FGL1	-0.977	9.5E-18	GPC3	-0.896	5.2E-15	COL5A2	-1.025	1.1E-06
HPX	-0.974	1.7E-16	ACSS2	-0.881	2.0E-08	AC115619.1	-1.014	5.5E-09
DPYD	-0.965	3.5E-06	PHYH	-0.875	2.0E-05	DNAJB9	-1.009	1.3E-18
HMGCS2	-0.954	5.4E-09	PLG	-0.859	1.9E-11	HERPUD1	-1.007	6.8E-18
ATP11C	-0.932	9.2E-06	LIPG	-0.851	1.6E-07	MT1B	-1.006	4.0E-04
PLG	-0.931	1.4E-16	LSS	-0.786	8.9E-10	TIMP1	-1.000	1.6E-10
COL2A1	-0.930	3.6E-02	CLDN2	-0.769	6.0E-08	MVD	-0.993	3.3E-13
ANGPTL3	-0.929	4.5E-09	IGF2	-0.764	1.9E-06	ANG	-0.992	7.6E-14
FGB	-0.927	4.9E-27	MVD	-0.733	1.3E-04	ACSS2	-0.989	2.3E-09
DPYS	-0.926	3.8E-06	GMDS	-0.732	1.5E-04	F5	-0.988	2.7E-07
TIMP1	-0.889	8.8E-07	PRXL2A	-0.710	2.9E-06	ENPP2	-0.984	2.5E-17
AKR1C1	-0.873	8.4E-05	APOC3	-0.685	2.8E-04	HSPB8	-0.977	2.7E-06
GPX3	-0.871	3.0E-12	IDI1	-0.677	9.5E-04	APOC1	-0.973	1.3E-13
P2RY6	-0.870	8.0E-04	TFF1	-0.551	5.0E-04	WEE1	-0.970	9.6E-11
APOA2	-0.868	2.8E-05	SCD	-0.520	6.8E-03	ACSL1	-0.956	3.5E-10
IGSF1	-0.867	2.9E-11	APOB	-0.489	5.5E-03	FGL1	-0.952	1.5E-18
SCD	-0.865	1.2E-10	APOA4	-0.443	1.7E-02	GPX3	-0.945	2.8E-15
HSD17B4	-0.861	2.9E-24	GPRC5B	0.414	5.6E-03	VSIG1	-0.945	2.8E-02
DHCR7	-0.855	1.5E-08	HLA-B	0.476	3.5E-02	AC117402.1	-0.942	2.5E-02
TM4SF4	-0.852	1.2E-03	LAMA5	0.519	6.8E-03	IDI1	-0.940	2.9E-11
GPC3	-0.851	2.9E-18	TSKU	0.559	7.6E-04	MTHFD2	-0.937	2.0E-06
SLCO4C1	-0.831	2.3E-07	BASP1	0.567	1.9E-03	RTN4RL2	-0.934	1.2E-05
SLC10A1	-0.827	1.1E-02	GABARAPL1	0.568	2.1E-04	GPC3	-0.932	1.2E-25
APOB	-0.822	3.0E-07	PROM1	0.579	8.8E-05	FTCD	-0.932	4.5E-06
TMEM176B	-0.821	4.8E-03	AQP10	0.579	1.2E-03	DPYS	-0.930	6.8E-03
ENPP1	-0.816	3.0E-03	INHBB	0.584	3.9E-02	APOL1	-0.925	3.7E-02
ACLY	-0.809	2.5E-07	TNS1	0.588	3.3E-03	CEP85	-0.925	9.8E-11
CP	-0.808	1.4E-03	MAT2A	0.597	2.6E-02	LSS	-0.925	1.2E-19
APOL1	-0.807	2.3E-02	KLF10	0.599	9.3E-04	DUSP5	-0.923	1.8E-12
HP	-0.783	1.8E-13	SGK1	0.604	7.6E-04	RRAD	-0.919	1.6E-02
MT-CYB	-0.770	6.5E-08	MFSD10	0.609	9.4E-03	HSPA5	-0.911	2.0E-14
SIPA1L2	-0.743	1.1E-03	RAB25	0.624	2.2E-02	MAFF	-0.911	5.1E-11

CD36	-0.738	1.3E-03	CYP2S1	0.626	3.3E-02	PC	-0.899	1.0E-19
C5	-0.728	1.7E-09	NETO2	0.627	2.5E-02	PEG10	-0.892	3.5E-10
CPS1	-0.727	9.9E-04	FRAS1	0.635	3.3E-02	DNAJB1	-0.891	5.0E-12
MPC1	-0.682	8.3E-03	GRK3	0.636	1.3E-03	IGF2	-0.880	2.6E-16
RBP4	-0.637	2.3E-04	CEBPD	0.637	6.8E-03	FGG	-0.875	2.8E-13
FASN	-0.636	5.3E-04	EGLN3	0.641	3.9E-04	HPX	-0.875	2.8E-13
MT-ATP6	-0.594	1.1E-03	TGFB1	0.644	4.0E-06	FGA	-0.858	5.1E-15
IDI1	-0.592	1.1E-03	ZFP36	0.649	2.9E-04	CPM	-0.852	2.6E-02
FABP1	-0.576	3.4E-02	STK39	0.655	1.7E-04	ITGA1	-0.849	1.1E-05
HMGCR	-0.574	9.3E-04	RESF1	0.655	1.1E-02	MPC1	-0.817	8.9E-06
FADS2	-0.523	1.8E-03	GALNT12	0.663	4.6E-02	HMGCS2	-0.796	2.3E-08
AHSG	-0.523	7.1E-03	SEMA4B	0.663	1.9E-03	DHCR7	-0.790	4.3E-10
FADS1	-0.519	1.6E-03	PLCD3	0.667	5.6E-06	CXCL5	-0.787	2.2E-02
APOC3	-0.460	4.9E-02	NBEAL2	0.668	4.5E-03	PLG	-0.783	1.0E-11
SERPINA1	-0.427	1.9E-04	NEDD9	0.668	3.2E-04	FABP1	-0.781	1.6E-02
FN1	-0.386	3.3E-02	SEMA6A	0.671	3.8E-02	LDLR	-0.774	4.5E-07
MAPK4	0.559	4.8E-02	FAM83F	0.675	1.2E-03	FDFT1	-0.772	1.2E-10
RAB31	0.587	7.7E-03	FYN	0.678	3.0E-02	HMGCS1	-0.772	1.0E-06
INHBB	0.617	1.4E-02	NR5A2	0.685	6.0E-03	FGB	-0.770	3.8E-17
MAT2A	0.638	1.8E-02	TET3	0.686	2.6E-02	FDPS	-0.756	2.1E-09
RRM2	0.665	3.2E-02	ST6GALNAC2	0.700	2.6E-02	MAP1B	-0.744	3.5E-05
EGLN3	0.673	3.2E-05	NFKBIA	0.707	4.8E-04	HMGCR	-0.744	4.9E-06
NR5A2	0.680	9.9E-03	TOP3A	0.710	3.4E-03	UCHL1	-0.738	3.0E-05
CTBP2	0.690	3.3E-02	TMEM132A	0.717	9.9E-03	INSIG1	-0.735	6.7E-05
TRIM32	0.700	3.2E-02	SLC7A6	0.718	3.2E-03	C6	-0.722	2.6E-05
HSPG2	0.709	1.2E-03	PRDM1	0.722	1.5E-02	APOC3	-0.720	1.8E-07
F3	0.716	1.3E-04	MMP1	0.722	6.9E-04	SIPA1L2	-0.715	4.1E-04
DAB1	0.719	3.7E-02	TLCD3A	0.724	2.2E-03	CSRP1	-0.712	2.7E-03
JAG2	0.733	4.1E-02	MAX	0.724	1.0E-03	CLU	-0.708	9.5E-10
LAMB3	0.747	1.0E-03	GCNT3	0.725	5.6E-03	FASN	-0.708	1.9E-02
MALRD1	0.752	3.3E-02	PTK2B	0.732	1.2E-03	DUSP1	-0.703	1.2E-08
FAM151A	0.759	9.4E-04	SASH1	0.734	4.9E-02	STARD4	-0.701	4.6E-04
ACSL5	0.764	7.3E-04	VWCE	0.739	9.3E-06	SCD	-0.699	7.7E-10
SIGIRR	0.777	9.3E-03	FLRT3	0.746	3.7E-09	HP	-0.685	3.1E-06
NUAK2	0.787	3.1E-02	SOX9	0.748	1.3E-04	CP	-0.631	5.1E-04
IRF1	0.796	1.4E-04	PLAGL2	0.750	4.8E-04	RGS16	-0.566	2.9E-02
AQP10	0.809	3.7E-06	SEC14L2	0.752	3.9E-04	FADS1	-0.556	9.0E-04
FER1L4	0.813	2.0E-04	LAMC1	0.753	1.7E-07	SLC51A	-0.554	9.0E-04
PRR15	0.814	1.8E-02	NFKBIZ	0.754	9.5E-05	FADS2	-0.529	1.6E-05
ENG	0.827	7.7E-03	ALDH1A3	0.754	7.6E-03	MT-RNR1	-0.518	1.2E-04

SLC6A8	0.827	9.4E-06	IRF1	0.755	4.2E-03	APOA4	-0.406	2.2E-03
COL4A2	0.828	4.5E-03	SLC26A2	0.756	2.1E-04	DGAT2	0.460	2.7E-02
FMO5	0.832	1.8E-03	DCHS1	0.762	2.8E-02	GPRC5B	0.466	6.7E-05
SGK1	0.833	4.9E-15	SLC7A5	0.763	1.9E-05	TRIM9	0.554	2.3E-02
EMP1	0.841	1.9E-02	MYO1A	0.764	3.7E-02	PIEZO2	0.611	5.4E-03
UBALD2	0.845	2.1E-05	GRB10	0.764	2.5E-06	TOP3A	0.621	4.3E-05
RASD1	0.851	3.1E-02	SLC36A1	0.769	1.6E-05	TMEM132A	0.657	1.3E-03
LGALS2	0.857	3.6E-02	SEMA6D	0.771	1.5E-04	FAM174B	0.680	9.8E-04
LRRC1	0.862	7.3E-05	SLC7A1	0.778	7.0E-04	B3GNT3	0.700	1.6E-02
GBP1	0.865	1.5E-03	DPP7	0.779	8.9E-08	MTTP	0.710	3.3E-05
DUOXA2	0.871	4.9E-07	EGFR	0.784	1.7E-05	TAGLN	0.710	6.7E-06
CDK1	0.878	1.9E-03	MXD1	0.785	3.6E-05	STK39	0.719	5.5E-10
IGSF9	0.880	3.1E-03	MICAL3	0.792	3.7E-04	DUOXA2	0.735	1.2E-09
RGS2	0.883	5.0E-03	CYFIP2	0.792	2.3E-03	DPP7	0.740	5.0E-15
PDGFRA	0.885	9.2E-03	DUSP4	0.794	3.6E-06	CORO2A	0.750	1.6E-05
ELOVL7	0.886	2.7E-02	HIF3A	0.800	1.1E-04	TNS1	0.754	6.4E-05
PTK2B	0.887	2.2E-08	HIVEP2	0.807	2.9E-04	EGLN3	0.757	1.6E-10
PITPNC1	0.889	2.6E-06	SLC37A1	0.811	5.5E-03	TGFB1	0.761	3.7E-12
HLA-A	0.891	1.0E-06	PRR15	0.814	6.2E-03	WNT5A	0.762	1.2E-02
LMO4	0.891	2.2E-07	LMO4	0.819	3.3E-04	NETO2	0.769	3.1E-05
FZD4	0.894	3.7E-04	CDC42EP3	0.821	3.2E-02	NPPB	0.775	3.8E-04
FAM83F	0.895	1.0E-09	TMEM200A	0.825	2.1E-02	SLC1A1	0.781	2.2E-07
UPP1	0.903	1.8E-08	GOLGA8A	0.826	4.4E-02	PLCD3	0.788	4.3E-15
DUSP4	0.906	3.6E-09	MALT1	0.826	1.6E-03	ID1	0.791	4.4E-04
DPP7	0.908	5.3E-13	MASP1	0.828	6.3E-06	SGK1	0.800	1.1E-06
NPNT	0.910	4.4E-09	RASL11A	0.830	3.1E-03	GRB10	0.808	8.7E-12
SOAT2	0.912	3.1E-03	IRS1	0.831	8.2E-05	SEMA4B	0.810	3.5E-09
ARG2	0.915	8.4E-06	OAT	0.833	6.4E-06	JAG2	0.816	3.3E-03
DPYSL3	0.916	3.5E-06	MYC	0.835	6.3E-04	SEC14L2	0.816	1.8E-07
MYC	0.920	6.9E-05	ARHGAP45	0.837	2.6E-03	CES2	0.819	4.6E-07
ID1	0.920	5.5E-05	MIR22HG	0.842	1.4E-03	LAMC1	0.832	1.0E-12
SOCS2	0.922	7.3E-09	C6orf132	0.843	5.3E-04	ADGRD1	0.833	5.2E-10
CD3EAP	0.924	1.5E-03	DUOXA2	0.843	1.7E-06	TRIM32	0.838	1.5E-03
RPP25	0.925	1.6E-02	CLDN7	0.845	1.5E-06	FAM83F	0.841	1.3E-07
SOX9	0.926	3.3E-10	ABTB2	0.846	2.8E-05	ITGA2	0.843	1.9E-11
GCNT3	0.927	3.2E-04	CTSK	0.852	3.6E-02	MAPK4	0.863	4.2E-08
GIPC2	0.936	6.8E-05	KCNK5	0.858	3.0E-07	HSPG2	0.863	8.5E-10
B3GNT8	0.939	6.3E-05	LOX	0.862	3.6E-08	FAM43A	0.864	4.1E-07
HEPH	0.954	9.1E-05	FER1L4	0.863	6.7E-04	SEMA6D	0.867	9.5E-12
OAT	0.955	1.6E-07	BCOR	0.863	4.2E-04	LMO4	0.872	3.2E-08

AMOTL2	0.961	2.5E-07	FOSL2	0.865	1.1E-09	SOCS2	0.873	1.6E-04
TFRC	0.964	3.8E-06	ITPKA	0.867	2.1E-08	CTSV	0.878	3.6E-02
ZNF703	0.982	6.6E-07	SELENOP	0.873	4.5E-02	ITPR3	0.882	1.4E-08
ITGA2	0.983	1.3E-05	MYO18B	0.874	1.8E-05	PRR15	0.884	3.2E-06
SPHK1	0.986	3.8E-07	DDR1	0.880	5.0E-04	C11orf86	0.888	1.9E-02
CPA2	0.987	1.1E-02	HSPG2	0.883	9.3E-05	TET1	0.889	2.0E-03
ITPKA	0.991	1.3E-07	PIK3C2B	0.885	1.1E-04	INHBB	0.890	4.4E-07
SNHG15	1.006	9.6E-03	PIM1	0.886	2.8E-03	PCSK5	0.895	8.9E-12
MTCL1	1.008	5.9E-06	KIRREL1	0.887	1.0E-02	TYMP	0.897	6.5E-03
DNASE1	1.025	8.0E-04	ITGA2	0.888	5.0E-07	MTCL1	0.902	2.6E-09
AL392172.1	1.028	7.6E-03	IGSF9	0.890	1.6E-02	SDK2	0.906	8.6E-03
PTAFR	1.030	5.1E-03	ZNF703	0.905	1.1E-04	MYO1A	0.908	2.6E-03
RARRES1	1.030	5.0E-03	PDE9A	0.908	9.9E-04	GRAMD4	0.910	2.2E-06
MMP1	1.030	2.0E-04	GSTA1	0.909	3.4E-05	PDE9A	0.912	1.1E-05
LYPD1	1.035	1.3E-02	SDK2	0.910	2.9E-02	SLC16A10	0.913	2.4E-05
RASL11A	1.047	1.4E-04	NCR3LG1	0.912	1.4E-02	HLA-A	0.915	1.2E-04
CCND2	1.048	2.1E-07	GPC4	0.913	6.8E-07	ICK	0.917	5.2E-10
BMP8B	1.051	5.6E-06	ARG2	0.914	1.3E-03	PIK3C2B	0.920	4.6E-05
GRAMD1B	1.058	3.4E-05	OBSCN	0.914	9.8E-05	SPHK1	0.922	2.3E-05
SLC15A1	1.062	8.9E-08	PITPNC1	0.922	7.9E-04	RIN2	0.922	3.6E-03
NFKBIA	1.064	1.2E-07	SOAT2	0.924	3.3E-03	TRAM2	0.927	1.6E-15
CLDN7	1.067	1.0E-09	SORL1	0.929	1.2E-03	CLMP	0.928	5.4E-06
ISG20	1.072	3.5E-05	PPP1R26	0.933	3.8E-03	SLC37A1	0.931	1.0E-05
CRYBG2	1.082	8.7E-06	TFRC	0.934	7.5E-05	PTK2B	0.932	9.3E-11
KCNMB3	1.086	1.1E-02	ADGRD1	0.935	7.7E-07	SLC15A1	0.932	2.1E-15
PPP1R14A	1.089	1.1E-02	SLC6A8	0.936	6.0E-06	SLC17A4	0.933	9.3E-03
CTSK	1.095	1.1E-07	METRNL	0.937	1.4E-02	SLC26A2	0.933	2.7E-10
PIM1	1.098	1.4E-10	FLNC	0.943	5.1E-14	LGALS3	0.933	5.5E-03
IHH	1.099	2.0E-06	B3GNT8	0.944	1.7E-03	FAM151A	0.943	2.4E-06
SLC30A2	1.104	4.5E-02	PCSK5	0.949	3.5E-09	DEPDC7	0.955	7.3E-10
ALDH1A3	1.107	5.0E-09	ITPR3	0.954	6.3E-08	METRNL	0.960	2.5E-04
GSDMB	1.107	4.6E-03	TIFA	0.966	2.2E-02	MYO18B	0.962	1.5E-09
SELENOP	1.109	3.5E-06	SLC25A29	0.968	7.8E-06	OAT	0.963	3.1E-09
SHH	1.111	4.3E-05	PPARGC1B	0.969	4.6E-03	GBP1	0.966	3.9E-05
PLEKHG5	1.117	5.0E-05	FADS6	0.973	1.9E-02	GIPC2	0.975	1.4E-06
KCNG1	1.124	2.4E-03	INPP5F	0.979	7.1E-05	TNFSF10	0.983	5.3E-06
TMEM163	1.125	4.6E-02	CEACAM19	0.982	2.6E-02	PAQR7	1.010	2.0E-08
TIMP2	1.133	5.6E-06	KCNJ13	0.987	2.0E-02	SLC6A8	1.013	7.3E-08
PDE9A	1.137	9.2E-07	MAPK4	1.001	4.6E-07	CPA2	1.014	4.1E-03
CABLES1	1.139	5.5E-03	SLC15A1	1.003	4.9E-08	TIFA	1.016	6.8E-05

UGT2B17	1.142	3.2E-02	ENO2	1.004	4.6E-02	CKB	1.022	6.5E-18
SLC46A1	1.145	2.9E-02	SHH	1.008	1.4E-03	TSKU	1.023	5.5E-10
SLC7A7	1.151	6.7E-07	DAB1	1.009	5.8E-04	FADS6	1.025	1.0E-04
DUOX2	1.162	2.8E-18	SOCS2	1.010	1.7E-04	GPSM1	1.038	1.4E-05
HNF4G	1.165	2.7E-03	DPYSL3	1.020	5.9E-08	HNF4G	1.048	2.5E-05
CDKN1C	1.169	3.8E-02	ABHD17C	1.021	3.2E-05	PPARGC1B	1.059	1.7E-03
FADS6	1.193	1.0E-03	CPA2	1.040	2.5E-02	MYO15B	1.073	5.4E-04
MYO15B	1.198	9.7E-04	UNC5B	1.041	3.3E-02	TMEM200A	1.095	4.8E-06
IRS2	1.206	2.0E-06	MGAT3	1.062	1.3E-02	B3GNT8	1.095	3.1E-06
PDGFA	1.207	1.8E-09	DIO3OS	1.065	4.9E-02	DCHS1	1.097	1.7E-08
MAF	1.208	9.4E-06	PDGFA	1.072	1.1E-03	CACNA1D	1.101	2.4E-08
SLC37A2	1.211	1.4E-03	DYNC2H1	1.085	1.9E-02	PITPNC1	1.105	6.9E-09
EDN1	1.219	3.6E-02	BMP8B	1.085	2.9E-05	UGT8	1.111	2.6E-04
PMEPA1	1.220	2.1E-02	ENTPD2	1.087	3.6E-03	GPRC5A	1.117	1.4E-11
CKB	1.229	3.0E-11	CCN2	1.087	2.9E-07	ALDH1A3	1.120	3.3E-03
GSTA1	1.229	1.3E-07	MTCL1	1.092	5.9E-07	TMCC3	1.122	7.6E-04
PRR15L	1.229	1.7E-05	NRGN	1.096	2.6E-02	SELENOP	1.129	1.7E-04
SPOCK1	1.258	3.9E-07	USP2	1.098	2.5E-02	DPYSL3	1.150	2.9E-14
RARRES3	1.259	4.5E-04	SLC7A7	1.102	2.2E-02	RAI2	1.164	3.3E-02
METRNL	1.275	8.4E-07	GPSM1	1.104	9.8E-03	COL4A1	1.166	1.7E-09
ABHD17C	1.279	1.8E-10	CCND2	1.109	4.2E-09	TIMP2	1.171	3.3E-03
NFASC	1.283	4.5E-02	PTAFR	1.114	4.3E-02	CTSK	1.179	1.8E-07
FAM43A	1.297	7.5E-10	NPNT	1.121	4.2E-08	NPNT	1.192	1.7E-12
PHGR1	1.307	2.7E-02	CKB	1.131	3.0E-18	HEPH	1.204	4.5E-08
LRRC75A	1.311	5.7E-03	CACNA1D	1.144	1.3E-04	RARRES3	1.222	2.2E-02
PLAUR	1.316	4.1E-02	ATF3	1.147	4.0E-07	COLEC12	1.228	1.9E-05
PCYT1B	1.320	1.1E-03	HNF4G	1.149	4.7E-04	SOAT2	1.233	9.2E-08
KCNF1	1.324	4.5E-03	TMCC3	1.161	9.5E-04	LAMC2	1.233	5.6E-10
LAMC2	1.333	5.7E-04	C11orf86	1.176	4.8E-03	CCND2	1.252	3.2E-27
SHISA9	1.343	1.4E-03	PLEKHG5	1.181	5.6E-04	SPOCK1	1.255	3.6E-03
NRGN	1.345	9.7E-04	IRS2	1.188	5.8E-09	SLC7A7	1.257	1.4E-04
CTGF	1.346	7.2E-08	FMO5	1.194	1.2E-06	TBX15	1.273	1.7E-02
PRDM16	1.350	4.0E-03	CDKN1C	1.194	2.6E-02	PLAC8	1.285	6.9E-10
KCNG3	1.354	2.9E-06	DNASE1	1.195	3.5E-03	FMO5	1.291	1.9E-09
ABCG1	1.362	9.6E-04	SPOCK1	1.205	3.8E-03	COL4A2	1.306	4.5E-10
LRRC66	1.379	8.6E-03	FXYD3	1.212	3.7E-02	DUOX2	1.312	3.2E-27
CTSE	1.384	1.1E-02	BIRC3	1.214	1.3E-02	PTGER4	1.316	5.0E-05
KLF4	1.385	2.0E-17	SSTR1	1.217	6.5E-03	MYH14	1.320	2.2E-02
ANPEP	1.398	1.7E-04	TIAM2	1.219	4.5E-03	FXYD3	1.323	7.7E-05
SLC5A12	1.400	3.7E-05	OTUD3	1.222	1.3E-04	BMP8B	1.324	1.2E-09

NPPB	1.422	2.7E-03	PUS7L	1.232	9.0E-03	BCOR	1.338	1.1E-26
PLB1	1.429	6.0E-05	LAMC2	1.235	1.2E-02	XKRX	1.362	4.8E-07
ANXA13	1.434	9.3E-03	AMOTL2	1.238	9.2E-10	GUCY2C	1.380	1.2E-02
B3GALT5	1.439	1.5E-03	PLAC8	1.250	9.4E-05	CDKN1C	1.382	1.1E-04
SEMA3B	1.450	7.3E-04	IRAK4	1.254	7.1E-03	ENG	1.382	4.3E-06
HSD3B2	1.455	1.9E-05	IHH	1.275	1.1E-07	DNASE1	1.385	4.8E-06
GOLGA7B	1.457	1.8E-02	FAM43A	1.281	9.2E-05	MALRD1	1.394	8.7E-06
PIGR	1.459	1.1E-03	SEMA5B	1.290	1.5E-02	LYPD1	1.395	1.8E-03
PTGER4	1.464	7.0E-05	KLF4	1.303	8.7E-10	FZD4	1.400	2.1E-15
KCNJ13	1.472	6.2E-07	MAF	1.304	4.4E-07	HSD3B2	1.408	2.3E-08
COLEC12	1.475	1.0E-04	PDE10A	1.307	1.0E-02	SSTR1	1.408	5.9E-07
PLAC8	1.476	5.3E-13	PCYT1B	1.310	6.6E-03	LGALS2	1.410	2.1E-05
FXYD3	1.483	6.4E-04	C15orf48	1.322	4.4E-02	GREM2	1.420	2.8E-11
TMCC3	1.499	1.1E-05	LMNTD2-AS1	1.339	3.7E-02	GOLGA7B	1.422	1.2E-02
GYG2P1	1.506	2.7E-03	ERVH48-1	1.349	3.3E-02	CTSE	1.425	3.7E-03
TYMP	1.514	1.7E-09	MSX2	1.359	3.1E-02	PDGFA	1.429	2.4E-09
ALPI	1.515	1.3E-03	PRR15L	1.364	7.1E-05	ADAMTS12	1.430	5.3E-11
LCT	1.521	5.0E-03	FZD4	1.365	5.0E-11	ABHD17C	1.436	5.3E-12
CLIC5	1.547	3.8E-04	THBD	1.365	1.1E-19	GSTA1	1.446	1.2E-05
ICOSLG	1.548	5.4E-11	PRDM16	1.366	2.4E-03	GRAMD1B	1.466	3.3E-16
PDE10A	1.549	1.9E-05	KCNC3	1.394	6.4E-03	ANXA13	1.471	3.2E-03
TCN1	1.550	4.9E-04		1.394	9.3E-04	KCNG1	1.479	1.2E-04
HHLA2	1.551	8.5E-04	LRRC19	1.405	1.4E-02	SLC5A5	1.482	7.7E-04
RIMS4	1.569	9.2E-03	LINC02381	1.422	4.1E-02	PHYHIPL	1.537	4.1E-05
THBD	1.579	1.9E-16	GREM2	1.424	2.1E-05	PHGR1	1.544	6.8E-03
ADAMTS12	1.582	3.3E-10	ICOSLG	1.430	2.2E-05	SLC5A12	1.551	6.8E-10
CDX2	1.587	2.2E-05	NPPB	1.447	6.3E-20	SLC5A11	1.553	2.0E-05
CBLN1	1.597	1.3E-04	MN1	1.453	1.9E-05	MAF	1.559	3.6E-17
MYO7B	1.598	1.9E-07	CD55	1.475	4.0E-04	PRDM16	1.566	4.5E-05
LINC02381	1.613	9.4E-05	S100G	1.483	1.7E-03	MN1	1.576	1.3E-10
FAM3B	1.613	1.6E-05	SLC5A11	1.491	8.1E-03	IHH	1.576	6.4E-10
PRODH	1.615	5.4E-07	COL4A2	1.493	1.1E-02	KCNJ13	1.611	6.3E-07
EFHD1	1.624	1.8E-04	DUOX2	1.506	3.1E-33	CDH17	1.618	1.6E-02
LINC01108	1.635	4.2E-04	TMPRSS2	1.507	3.2E-02	SLC30A2	1.631	2.9E-04
SLC26A3	1.636	2.3E-02	XKRX	1.513	4.8E-05	PRODH	1.639	2.4E-09
XKRX	1.638	1.4E-11	ANPEP	1.532	1.7E-16	LRRC19	1.651	3.2E-05
C11orf86	1.641	9.4E-06	PLB1	1.534	1.2E-03	CBLN1	1.651	6.2E-05
TMPRSS2	1.641	2.1E-03	KCNG3	1.540	6.0E-04	ANPEP	1.652	4.8E-10
ADGRG7	1.649	5.4E-03	COLEC12	1.540	7.5E-05	PDE10A	1.654	4.7E-11
PLA2G5	1.651	4.5E-03	GRAMD1B	1.544	3.9E-11	HHLA2	1.659	7.0E-08

DLGAP3	1.660	1.3E-04	MYO7B	1.544	3.1E-02	PCYT1B	1.660	6.3E-09
CD244	1.665	9.3E-03	PITX1	1.548	7.0E-06	NRN1	1.706	1.2E-06
SLC5A11	1.676	5.5E-05	FAM3B	1.552	4.0E-03	CA4	1.707	2.5E-02
MN1	1.685	6.3E-10	CD3G	1.585	2.6E-13	GSDMB	1.746	6.4E-10
MSX2	1.694	6.3E-06	ERV3-1	1.588	1.5E-03	ABCG1	1.753	8.0E-07
MNX1	1.703	9.5E-03	GPRC5A	1.612	3.2E-04	SLC26A3	1.760	5.2E-03
SLC5A1	1.707	2.5E-05	ALPI	1.622	6.9E-03	GYG2P1	1.760	1.5E-03
ITGA8	1.721	1.4E-08	KCNG1	1.630	5.8E-03	ADGRG7	1.783	2.7E-04
TBX15	1.727	2.4E-03	SLC5A12	1.637	1.0E-03	LRRC75A	1.801	2.5E-10
C15orf48	1.740	6.3E-04	EDN1	1.658	4.6E-03	TMPRSS2	1.812	2.3E-04
FLT1	1.741	9.3E-05	ADAMTS12	1.661	3.0E-07	KCNMA1	1.828	7.6E-03
GPRC5A	1.758	2.0E-11	SLC26A3	1.661	3.2E-02	PLB1	1.836	5.1E-10
WNT11	1.774	3.6E-04	BICDL2	1.687	4.5E-02	C3orf85	1.868	8.0E-04
B4GALNT2	1.775	5.5E-04	SHISA9	1.750	3.7E-04	ITGA8	1.868	7.6E-14
VIPR1	1.783	3.2E-03	FLT1	1.763	4.0E-04	MELTF	1.869	4.2E-04
TM4SF20	1.784	1.9E-03	SATB2	1.778	2.6E-02	FLT1	1.870	5.6E-08
CD3G	1.799	3.9E-15	PRODH	1.784	2.3E-07	PITX1	1.875	1.4E-09
C6orf222	1.814	2.1E-04	ACE2	1.811	1.2E-11	PLA2G5	1.887	2.6E-03
NRN1	1.825	2.7E-03	MELTF	1.869	8.7E-03	ALPI	1.893	2.6E-05
PITX1	1.840	5.1E-09	CA8	1.922	3.0E-02	NRGN	1.909	1.0E-07
CA4	1.854	1.1E-05	ITGA8	1.928	5.9E-07	DLGAP3	1.923	6.2E-07
SP8	1.859	2.9E-02	CLIC5	1.932	3.2E-06	KCNG3	1.944	5.2E-16
RNF186	1.864	2.2E-02	B3GALT5	1.933	3.0E-04	C15orf48	1.950	1.0E-05
ACE2	1.901	2.1E-05	EFHD1	1.933	3.1E-03	CD3G	1.967	6.7E-16
ZNF469	1.928	4.7E-07	ABCG1	1.959	3.6E-05	MGAM2	1.969	5.0E-03
FABP2	2.033	4.3E-06	DPEP1	2.039	5.7E-04	PRR15L	1.972	1.4E-15
MELTF	2.061	5.6E-06	KCNMA1	2.040	2.8E-05	FABP2	1.975	1.1E-04
CA8	2.063	3.4E-04	DLGAP3	2.051	4.9E-05	CD244	2.001	1.8E-03
WDR72	2.163	3.1E-06	JPH3	2.090	4.2E-03	CLIC5	2.017	9.8E-04
AL121974.1	2.198	3.2E-02	VIPR1	2.118	5.7E-03	LCT	2.059	7.2E-06
S100G	2.268	3.6E-08	SLC5A1	2.280	1.5E-09	MYO7B	2.067	2.3E-06
TMEM200C	2.283	2.6E-16	MUC13	2.287	4.5E-03	WDR72	2.071	1.0E-03
MUC13	2.335	5.3E-05	TBX15	2.290	5.2E-05	TMEM200C	2.078	9.8E-11
FZD8	2.340	9.6E-12	MNX1	2.305	9.9E-03	ACE2	2.142	8.6E-23
GPA33	2.358	4.5E-02	ZNF469	2.347	6.2E-08	SLC5A1	2.159	9.8E-11
GJB4	2.388	4.8E-02	BNIP5	2.350	2.0E-04	ZNF469	2.212	3.6E-15
ZIC1	2.418	3.9E-05	GYG2P1	2.416	5.4E-03	PIGR	2.224	1.1E-07
GPR35	2.431	2.4E-03	PLA2G5	2.441	1.1E-02	FAM3B	2.249	5.2E-09
DPEP1	2.438	4.1E-06	TM4SF20	2.444	1.0E-03	CDX2	2.292	4.9E-06
IRX2	2.553	9.2E-06	TMEM200C	2.649	1.7E-08	DPEP1	2.325	8.2E-06

LINC00982	2.770	7.2E-04	ALOX5	2.683	3.9E-02	TM4SF20	2.379	1.3E-09
ZNF439	2.931	1.4E-02	GPR35	2.718	3.4E-02	FZD8	2.382	1.5E-21
REG1B	2.938	1.7E-02	WDR72	2.767	4.6E-11	MUC13	2.478	2.5E-07
URAD	2.956	1.7E-07	FZD8	2.794	3.7E-04	GPA33	2.599	2.5E-02
VWC2	3.009	8.3E-03	CASP5	2.932	1.5E-02	S100G	2.605	4.3E-13
PTPRT	3.212	4.4E-12	URAD	2.994	7.0E-06	VWC2	2.764	3.1E-02
GDF7	3.272	6.6E-07	BTNL8	3.198	1.3E-08	IRX2	2.780	9.4E-08
SLC2A5	3.376	4.0E-19	GNRH2	3.210	2.4E-09	URAD	2.919	1.0E-10
BTNL8	3.389	1.7E-11	SLC2A5	3.330	3.1E-19	LINC00982	2.971	1.8E-03
NKX2-5	3.787	2.6E-03	GDF7	3.514	5.6E-06	ZIC4	3.222	1.1E-04
DMBT1	3.968	3.6E-03	DMBT1	3.747	1.8E-02	GNRH2	3.268	3.9E-10
ZNF528	3.986	6.7E-03	REG3A	3.768	8.7E-03	SLC2A5	3.286	8.7E-10
CEACAM6	4.159	9.2E-06	ZIC1	3.822	7.6E-09	BTNL8	3.328	4.5E-14
BTNL3	4.164	2.2E-13	SLC9A3	3.937	5.6E-04	SLC9A3	3.330	8.9E-04
GNRH2	4.280	1.0E-16	GPA33	3.979	1.0E-03	PTPRT	3.615	5.2E-06
AC078881.1	4.345	9.4E-04	PTPRT	4.026	1.0E-16	VIPR2	3.840	1.4E-06
ZNF253	4.418	2.5E-03	ZIC5	4.035	2.8E-02	BTNL3	4.065	6.8E-13
HMX1	4.904	1.7E-03	BTNL3	4.836	3.3E-12	ZIC1	4.291	2.4E-13
TBX1	5.516	9.0E-09	HMX1	5.057	1.3E-02	ZNF253	4.360	2.0E-03
ADGRG5	5.599	1.5E-04	VIPR2	5.082	5.7E-04	GDF7	5.287	2.1E-12
VIPR2	6.232	2.7E-06	ZIC4	5.410	4.1E-04	HMX1	5.635	6.2E-05
ZIC4	6.702	2.0E-07	TBX1	6.533	9.4E-08	TBX1	5.837	1.2E-11
CHCHD2	8.158	1.5E-03	CHCHD2	9.293	7.8E-04	CHCHD2	9.695	1.1E-06