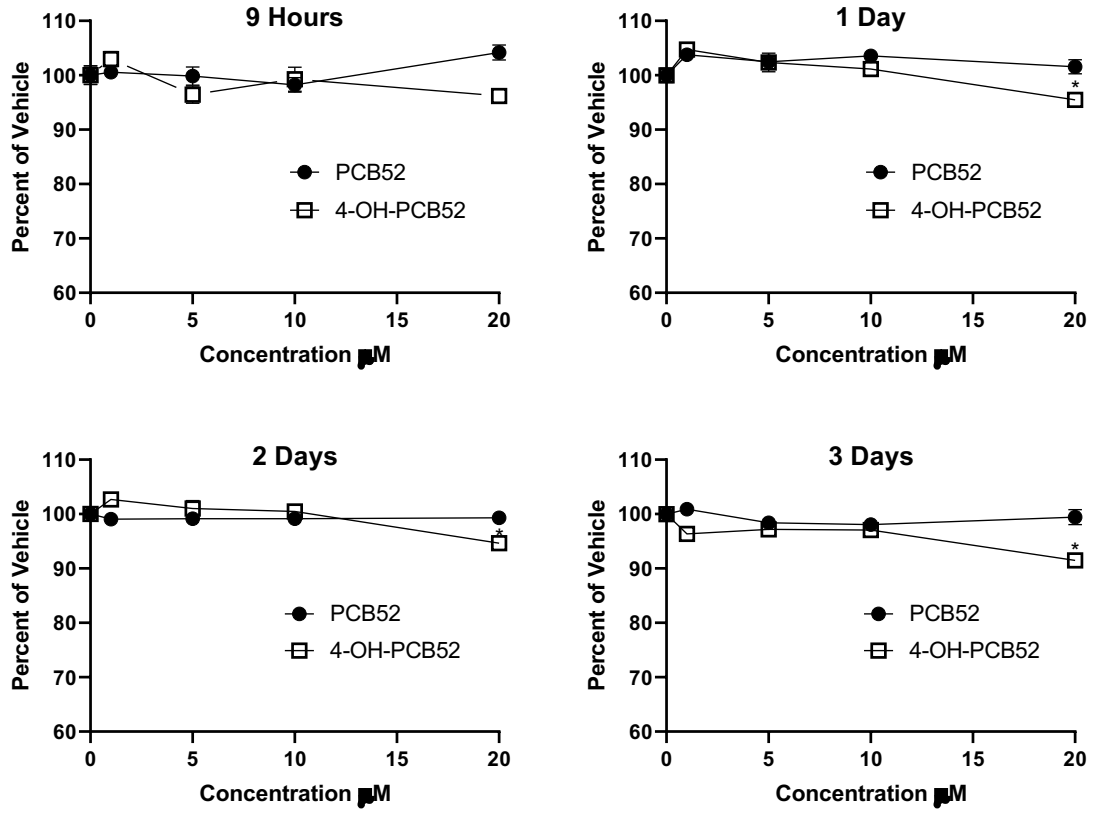
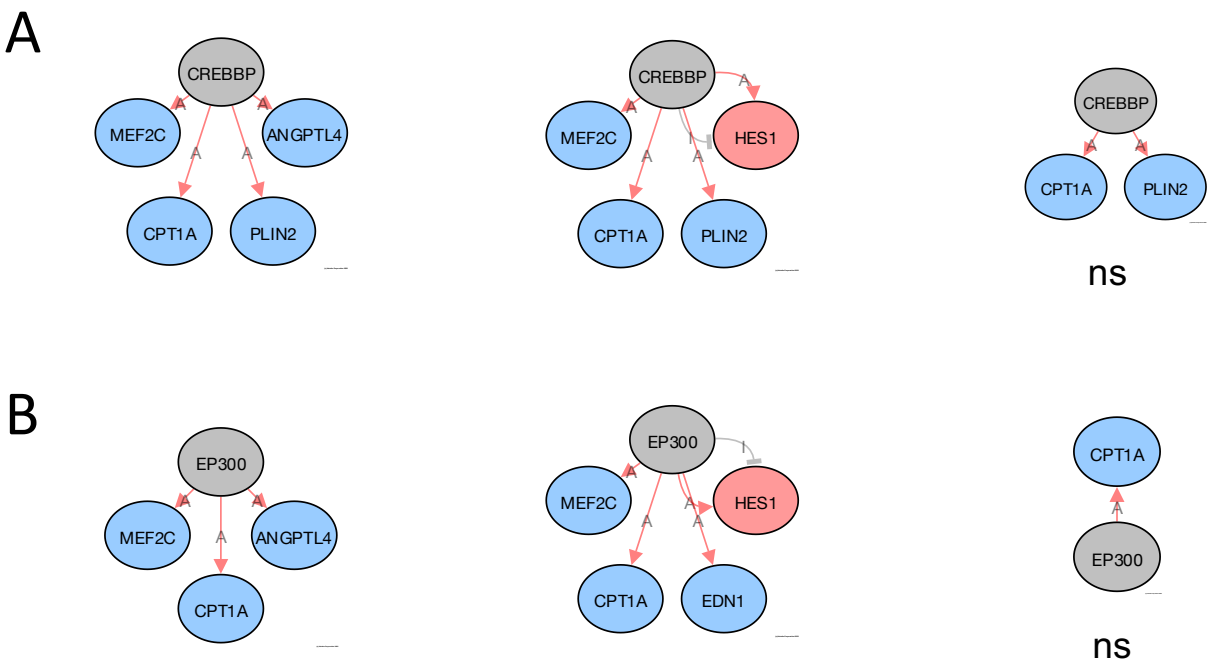


Supplemental Figure 1: Cytotoxicity assay (Cell Titer Glo) of PCB52 or 4-OH-PCB52 on human preadipocytes over a time course. * $p \leq 0.05$, One-way ANOVA comparing values to vehicle control (0 concentration).



Supplemental Figure 2: Additional predicted upstream regulators affected by PCB52. A. Inhibition of CREBBP at different time points by PCB52, B. Inhibition of EP300 by PCB52 at different time points. Red Oval: Upregulated (actual); Blue Oval: Downregulated (actual); Gray or White oval: Unchanged or undetected (actual); "A": Activated (predicted); "E": Expression Inhibited (predicted); "I": Inhibited (predicted); →Activation (predicted); ┤ Inhibition (predicted). Except where indicated, all pathways are significant ($p \leq 0.05$, $FDR \leq 0.05$). ns=nonsignificant

Supplemental Table 1A: PCB52 upregulated genes at 9 hours

symbol	Log2fc	adjpv*
CSGALNACT1	0.889717	0.000001
CHRDL2	0.876761	0.020793
PTGES	0.629335	0.002235
SULT1E1	0.627006	0.041020
TFPI2	0.594026	0.000001
IMMP2L	0.586874	0.011473
BMP6	0.560740	0.000001
LINC02604	0.553536	0.043008
PDE4D	0.546889	0.018098
TM4SF1	0.541635	0.000001
SMOX	0.515410	0.000001
FAM167A	0.509387	0.000353
SEMA3F	0.479837	0.013454
STC1	0.469472	0.025140
PDE7B	0.460571	0.000633
DCLRE1C	0.447649	0.032024
BARD1	0.438946	0.001726
IKBKB	0.434680	0.011157
SLC22A15	0.430783	0.042879
UVSSA	0.420120	0.011180
GDF15	0.411225	0.000216
GK	0.386191	0.000395
PKD1P6	0.375816	0.043677
PTGS1	0.372802	0.003269
CEACAM19	0.367937	0.015790
WHRN	0.362800	0.041010
DUSP4	0.359801	0.000032
STAMBPL1	0.351120	0.000201
AFAP1L1	0.342500	0.018033
TRIM62	0.341985	0.000001
TRIB3	0.341023	0.000001
SLC3A2	0.338151	0.000001
FGF7	0.337375	0.008911
UNC5B	0.328582	0.000005
PC	0.322804	0.003095
HMOX1	0.320821	0.000001
VLDLR	0.317782	0.000081
PAPPA	0.316474	0.000001
PPP1R3B	0.306292	0.000001
EPB41L1	0.302369	0.004568

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 1B: PCB52 downregulated genes at 9 hours

symbol	Log2fc	Adjpv*
C16orf89	-1.606325	0.002973
ANGPTL4	-1.215362	0.000001
PLIN2	-0.831364	0.000001
CHI3L1	-0.723843	0.038687
IL34	-0.684815	0.031157
SLC25A20	-0.622422	0.000001
TMEM135	-0.600529	0.032024
TRHDE-AS1	-0.579544	0.049599
SLC2A12	-0.578799	0.033109
TRIM52	-0.545188	0.008206
KCNQ3	-0.500268	0.041020
CPT1A	-0.496839	0.000001
ACAA2	-0.442267	0.000001
RGS7BP	-0.426259	0.000003
FMN2	-0.420828	0.019966
HAND2	-0.371960	0.004590
OXTR	-0.355206	0.000001
PIGN	-0.350771	0.009442
KCNS2	-0.346029	0.015604
SHISA3	-0.343563	0.025826
OSR2	-0.337884	0.002267
MEF2C	-0.330182	0.046846
TENM3-AS1	-0.321361	0.035981
POP1	-0.319909	0.001298
RHOBTB1	-0.312744	0.000146
SERPINB2	-0.306431	0.000001
PLK2	-0.306325	0.000001
ICK	-0.303543	0.000001
ECH1	-0.300714	0.000057

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 2A: 4-OH-PCB52 upregulated genes at 9 hours (top 50, fold-change)

symbol	Log2fc	adjpv*
STMN2	2.836531	0.000001
FGL2	2.028982	0.000001
GUCY1A2	1.732489	0.039792
SULT1E1	1.675065	0.000001
SAMD11	1.568253	0.000001
CD34	1.564996	0.000001
EMCN	1.370015	0.000997
PI16	1.348241	0.000001
FRMD3	1.324468	0.000001
ACTC1	1.232997	0.000004
NXPH2	1.149418	0.000001
TRIM29	1.128593	0.002349
LINC02593	1.127672	0.000001
SLC25A34	1.126792	0.047784
DDIT4L	1.116869	0.000001
ATP6AP1L	1.094684	0.006366
CAVIN2	1.044042	0.000001
ID4	1.03977	0.000004
ZBED9	1.008998	0.014009
PTGES	1.001543	0.000001
DLGAP1	0.970252	0.000003
GREM2	0.962859	0.000001
OLFM1	0.958008	0.024724
TM6SF1	0.942599	0.038376
OPCML	0.929213	0.027426
TMEM233	0.925797	0.016528
PTPRZ1	0.91132	0.041687
SLC16A14	0.89028	0.000754
SYT15	0.884689	0.000001
NMU	0.880266	0.000001
MEX3B	0.878975	0.000001
FKBP9P1	0.855731	0.000413
CLDN4	0.836562	0.000001
NPAS1	0.826778	0.000273
SBSPON	0.825636	0.000001
MYCT1	0.820013	0.000002
ELN	0.818843	0.000001
PPP1R14C	0.813534	0.000630
LMO2	0.804066	0.000001
MYO16	0.801169	0.009055
PDE4D	0.796192	0.000007
C19orf33	0.792058	0.021358
RPL17-C18orf32	0.791087	0.005064
CPXM1	0.789321	0.040601
METTL24	0.785691	0.009055
TMEM187	0.772212	0.003580
SMAD6	0.771615	0.000001
AADAC	0.759861	0.000001
SAA1	0.757565	0.000001
ADGRD1	0.752412	0.000001

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 2B: 4-OH-PCB52 downregulated genes at 9 hours (top 50, fold change)

symbol	Log2fc	adjpv
MEF2B	-3.539807	0.000476
CLMN	-2.816200	0.023012
PKNOX2	-1.835011	0.000001
DPT	-1.670266	0.017984
KCNIP3	-1.570867	0.000330
PCDHGB2	-1.437321	0.000603
TMEM119	-1.421070	0.000010
CCL7	-1.395466	0.008904
LDB3	-1.306652	0.001895
C16orf89	-1.224416	0.018789
NFE2	-1.206250	0.000249
FER1L6	-1.162507	0.013170
RRAD	-1.153074	0.000001
RIPOR3	-1.133637	0.002311
FRMPD4	-1.104525	0.000001
MLPH	-1.082705	0.000001
CDK18	-1.075203	0.003577
RPS6KA5	-1.062179	0.016556
VAT1L	-1.037990	0.000003
CCL2	-1.025875	0.000001
CLIC2	-1.015818	0.000109
POM121L9P	-0.996706	0.048294
WWC1	-0.986392	0.000001
KIF5A	-0.986289	0.001217
DNER	-0.967759	0.000001
F2RL1	-0.967384	0.000003
MMP1	-0.959707	0.000001
MACC1	-0.956922	0.033509
CLCA2	-0.941244	0.029690
CHI3L1	-0.925845	0.000782
REPS2	-0.918664	0.027485
WNT5B	-0.887928	0.000001
IGFBP2	-0.868409	0.043971
DPF3	-0.867480	0.000001
MCTP1	-0.864013	0.033541
SECTM1	-0.843874	0.000001
DNM1P51	-0.843220	0.009265
LINC01085	-0.841825	0.001179
COMTD1	-0.826407	0.029427
ALPL	-0.824273	0.001244
CDKN1C	-0.813170	0.034422
IL34	-0.806564	0.002449
ITGA7	-0.792795	0.000001
STEAP1B	-0.787334	0.000001
PPP4R4	-0.785875	0.004822
SCUBE3	-0.785724	0.000001
NPTXR	-0.740617	0.000001
PLA2G6	-0.738981	0.000301
FHDC1	-0.723725	0.000001
CD83	-0.714411	0.000016

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 3A: PCB52 upregulated genes at day 1

symbol	Log2fc	adjpv*
CRLF1	1.147137	0.000298
PDE7B	0.849403	0.000001
F2RL1	0.698032	0.008221
TFPI2	0.637349	0.000001
STC1	0.587710	0.025202
PDE4D	0.583247	0.005945
CARD16	0.557552	0.003523
CSGALNACT1	0.485872	0.001879
FZD8	0.477319	0.000001
NEGR1	0.445268	0.000001
SEMA3F	0.435924	0.039249
RAB27B	0.429983	0.000001
ESM1	0.410112	0.022919
PID1	0.408627	0.000001
HES1	0.400401	0.005313
CLDN1	0.390323	0.000019
MME	0.373532	0.001879
TGM2	0.353150	0.000620
SIK1	0.346353	0.028941
DUSP4	0.346016	0.000087
CD200	0.341368	0.000001
MAL2	0.333375	0.004493
BBS12	0.326118	0.032928
HK2	0.316643	0.000001
FARS2	0.313998	0.021173
AVPI1	0.313340	0.000064
FGF7	0.303552	0.032634

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 3B: PCB52 downregulated genes at day 1

symbol	Log2fc	adjpv*
STRA6	-1.351298	0.000001
COLEC12	-0.749741	0.000113
DHRS3	-0.736189	0.000001
PLIN2	-0.725401	0.000001
SLC25A20	-0.695765	0.000001
ACBD7	-0.635523	0.017083
SPACA6	-0.630892	0.049385
SLC9A3-AS1	-0.604380	0.027564
CPT1A	-0.582847	0.000001
AADAC	-0.568060	0.000087
EDN1	-0.565355	0.029590
ACADVL	-0.557710	0.000001
WNT2B	-0.530483	0.040979
CD14	-0.505284	0.009763
NMU	-0.461714	0.000016
LXN	-0.451698	0.000001
PLAT	-0.447983	0.000001
ACAA2	-0.439634	0.000001
RARRES1	-0.407546	0.002525
DEPP1	-0.406264	0.000554
PDE5A	-0.388683	0.000008
RGS7BP	-0.380384	0.000029
ABCC3	-0.376930	0.000190
ECH1	-0.368279	0.000001
SELPLG	-0.360385	0.044113
MEF2C	-0.356398	0.023930
KLF11	-0.328909	0.000059
TRHDE	-0.324423	0.043409
USP53	-0.324120	0.000001
NMT2	-0.323549	0.000001
MRVI1	-0.307462	0.000615
CCNL1	-0.302355	0.000001

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 4A: 4-OH-PCB52 upregulated genes at day 1 (top 50, fold-change)

symbol	Log2fc	adjpv*
STMN2	2.481219	0.000001
TMEM92	2.188332	0.014751
FGL2	1.774345	0.000001
CRLF1	1.730639	0.000001
THRB	1.673100	0.011353
EMCN	1.603354	0.000066
G0S2	1.549189	0.000200
CD34	1.511009	0.000001
PTPRU	1.475900	0.016171
C16orf89	1.437298	0.003684
FAM43B	1.413390	0.000614
PTPRZ1	1.401216	0.000418
PI16	1.219118	0.000001
TMEM220-AS1	1.210209	0.017873
MYCT1	1.205785	0.000001
SULT1E1	1.200876	0.000001
TENM2	1.161443	0.004610
SEMA4G	1.153532	0.011285
METTL24	1.119265	0.000011
SBSPON	1.113316	0.000001
NXPH2	1.108162	0.000001
FAT3	1.107126	0.028153
PDE1A	1.066174	0.000504
FRMD3	1.049003	0.008437
CKB	1.026717	0.000001
BCDIN3D-AS1	0.998230	0.038292
HTR2A	0.995711	0.022230
PLCE1-AS1	0.995401	0.004784
PDZD7	0.958370	0.044281
ADA2	0.950931	0.014508
NPAS1	0.928078	0.001562
CAVIN2	0.925061	0.000001
LINC02593	0.919908	0.000176
COMP	0.914146	0.000300
ELN	0.894526	0.000001
AADAC	0.869212	0.000001
DLGAP1	0.867194	0.000022
LDHD	0.864069	0.041944
CSMD2	0.829532	0.000003
ID4	0.820003	0.008034
THBD	0.818228	0.000001
DTX4	0.812015	0.006819
DDIT4L	0.792355	0.000001
MYO16	0.783680	0.026187
ERBB3	0.778837	0.005481
SPOPL	0.766919	0.000001
PCSK9	0.761667	0.000001
ACVRL1	0.760331	0.006684
SAA1	0.756485	0.000002
GREM2	0.747036	0.000003

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 4B: 4-OH-PCB52 downregulated genes at day 1 (top 50, fold-change)

symbol	Log2fc	adjpv*
RPL22P1	-9.368962	0.005040
SAPCD1	-2.264356	0.013383
PSD	-2.106167	0.043827
APCDD1L-DT	-1.858937	0.014476
DPT	-1.740117	0.000765
NPTX1	-1.716764	0.003331
ADAM8	-1.516984	0.021778
COLEC12	-1.383076	0.000001
KRT15	-1.325332	0.029598
SLC13A4	-1.323899	0.048321
RIPOR3	-1.310317	0.000030
FNDC5	-1.253804	0.002260
KCNIP3	-1.159117	0.031003
ZNF154	-1.138258	0.000586
PKNOX2	-1.104778	0.000001
PLEKHA6	-1.013367	0.037693
DNER	-1.011259	0.000001
FAM229A	-1.007994	0.038220
YJEFN3	-0.979708	0.010123
TMEM119	-0.937437	0.008249
LINC00106	-0.926588	0.026366
NFATC2	-0.919989	0.024572
CHI3L1	-0.917694	0.001368
SPTBN5	-0.912806	0.012423
MCOLN3	-0.898248	0.000001
MIAT	-0.890189	0.000001
MCF2L	-0.860701	0.005017
HOXB-AS1	-0.852730	0.036198
MAMDC4	-0.834455	0.008964
SLC23A3	-0.834296	0.037497
MLPH	-0.827240	0.000001
IGFBP2	-0.824104	0.048849
GALNT16	-0.813505	0.000001
QRICH2	-0.795576	0.005682
STX1B	-0.774487	0.032145
AVIL	-0.773917	0.012746
ITGA7	-0.770657	0.000001
VAT1L	-0.769037	0.001204
MXRA5	-0.765118	0.001210
ABCA10	-0.762596	0.009545
SAMD3	-0.758906	0.005204
ADAMTS14	-0.758696	0.000149
CCNJL	-0.755524	0.003665
CLEC2D	-0.744178	0.005033
ALPL	-0.733834	0.009800
HHAT	-0.730707	0.003645
ADCY4	-0.724663	0.001106
PCDHGA4	-0.717247	0.014383
LIF	-0.716970	0.000001
SERTAD4	-0.715722	0.008034

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 5A: PCB52 upregulated genes at day 3 (top 50, fold-change)

symbol	Log2fc	adjpv
F2RL1	1.304003	0.000004
TENM2	1.031884	0.022488
NR3C2	0.757756	0.007813
TFPI2	0.752925	0.000001
DNER	0.663111	0.000003
NEGR1	0.655679	0.000001
BMP6	0.603729	0.017494
CXCL8	0.570025	0.000001
HHIP-AS1	0.569831	0.008604
CCL11	0.560843	0.020465
PDE7B	0.546213	0.000001
HHIP	0.523675	0.000350
HAS2	0.521412	0.000085
HECW2	0.517401	0.029862
ESM1	0.509067	0.001575
CXCL1	0.504813	0.000001
SCG2	0.498814	0.044020
PACC1	0.495267	0.005009
STC1	0.485930	0.000571
VPS33B	0.481765	0.033684
CXCL6	0.478883	0.000001
GK	0.478783	0.000005
BCYRN1	0.476872	0.000034
MMP1	0.476135	0.000008
SNX8	0.468651	0.000003
INSYN2B	0.465350	0.000323
ACKR3	0.444258	0.000108
PI16	0.435642	0.000001
PID1	0.430842	0.000001
TGM2	0.427867	0.000003
METTL18	0.426099	0.029597
CLDN1	0.425029	0.000001
FBXL2	0.417021	0.007384
PAX8	0.416420	0.019819
ZSWIM7	0.411776	0.017971
LRTOMT	0.411318	0.040005
GNG11	0.406185	0.000003
SRR	0.405827	0.043769
P4HA3	0.405199	0.048290
BOLA1	0.402368	0.034800
MME	0.399485	0.000232
TMEM38B	0.399438	0.007956
SPP1	0.397256	0.025195
ZBTB14	0.396584	0.001832
CXCL3	0.395626	0.037247
FGF7	0.394256	0.000027
MED31	0.388654	0.014857
FNDC1	0.387896	0.014736
DAW1	0.386903	0.005694
TNC	0.378754	0.000025

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 5B: PCB52 downregulated genes at day 3 (top 50, fold-change)

symbol	Log2fc	adjpv
PLA2G4B	-1.318715	0.001383
COLEC12	-0.829767	0.000010
CYP26B1	-0.811385	0.015975
AADAC	-0.765933	0.000143
TNFRSF25	-0.672185	0.023222
EPHB6	-0.650110	0.000295
NPIPB3	-0.607900	0.006280
PLIN2	-0.583441	0.000001
HELZ2	-0.561667	0.005268
CPT1A	-0.538934	0.000001
STEAP4	-0.537693	0.012773
PGGHG	-0.537628	0.010853
PPP1R13B	-0.494256	0.035545
ACSS1	-0.485262	0.001967
IFIT3	-0.483672	0.007027
KCND3	-0.482369	0.005127
ARHGAP39	-0.476538	0.039053
RIPOR3	-0.471882	0.016134
XAF1	-0.471854	0.035545
SLC25A20	-0.470677	0.000032
RAD54L	-0.467256	0.002154
NEK8	-0.449964	0.044595
ABCC3	-0.431661	0.000005
GUSBP9	-0.429071	0.035610
GABRE	-0.415145	0.014840
RGS7BP	-0.413210	0.000002
CPEB3	-0.407899	0.021678
CFI	-0.407276	0.001368
NSUN5P2	-0.406968	0.017494
IFIH1	-0.406510	0.041856
CPA4	-0.400935	0.000001
CDK5R1	-0.398103	0.033938
WASH4P	-0.383433	0.004152
HOXB6	-0.383227	0.010359
TEPSIN	-0.380987	0.021740
RECQL5	-0.380881	0.034371
SFRP4	-0.380532	0.001277
TACC2	-0.377720	0.010416
DHRS3	-0.371759	0.000196
SDHAP3	-0.363515	0.041737
SFI1	-0.356068	0.027600
SBSPON	-0.355748	0.015832
VASH1	-0.353514	0.021018
TAF1C	-0.349724	0.046547
ALDH1A3	-0.348409	0.000001
STAG3L3	-0.346984	0.003237
PASK	-0.343848	0.041632
POLD1	-0.335224	0.032174
NEAT1	-0.334858	0.023222
AFG3L1P	-0.334280	0.041856

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 6A: 4-OH-PCB52 upregulated genes at day 3 (top 50, fold-change)

symbol	Log2fc	adjpv*
STMN2	3.042435	0.000001
CDH6	1.903732	0.008140
TDRD9	1.807690	0.000302
PPP1R14C	1.625043	0.004350
CRLF1	1.539830	0.000011
ADH1B	1.538951	0.000047
AADAC	1.485455	0.000001
PTPRZ1	1.485246	0.000654
SPACA6P-AS	1.471516	0.031082
EMCN	1.468527	0.008545
COLQ	1.399877	0.037462
FGL2	1.370468	0.000001
PPP1R26-AS1	1.322106	0.015084
ATP2A1-AS1	1.230337	0.032165
XPNPEP2	1.222694	0.024947
RIMS4	1.219392	0.015092
PI16	1.136704	0.000001
NXPH2	1.098027	0.000001
PDE1A	1.081719	0.000724
G0S2	1.077442	0.000965
CHN2	1.010617	0.036205
TRPM3	1.008080	0.000058
CYS1	0.971851	0.025449
PALM	0.922877	0.000001
SBSPON	0.918469	0.000001
IL7	0.890663	0.000001
IFITM10	0.874474	0.036572
IGSF10	0.856447	0.025918
PTGER3	0.835859	0.002574
PTCHD4	0.832944	0.000226
ADHFE1	0.832286	0.011701
PLIN2	0.825512	0.000001
METTL24	0.819727	0.001761
GPC4	0.810795	0.001822
C10orf90	0.801456	0.017737
B3GALT2	0.760104	0.010268
MYO16	0.745641	0.016799
CD34	0.723612	0.000001
SPRY1	0.695359	0.039428
P3H2	0.681685	0.008053
DTX4	0.680336	0.009041
PENK	0.662946	0.012384
CYGB	0.657996	0.011976
ZNF667-AS1	0.652896	0.033924
IL26	0.651553	0.000285
KCNQ3	0.626862	0.001231
CAVIN2	0.617160	0.000004
GPX3	0.609421	0.000001
SIPA1L2	0.595763	0.002692
SPOPL	0.592449	0.000001

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 6B: 4-OH-PCB52 downregulated genes at day 3 (top 50, fold-change)

symbol	Log2fc	adjpv*
PVRIG2P	-7.508239	0.000663
ZNF671	-2.339075	0.002209
CCDC190	-1.706624	0.001115
APCDD1L	-1.491001	0.000001
TNFRSF11A	-1.310133	0.000741
RIMS1	-1.252947	0.040348
MMP1	-1.216813	0.000001
DPT	-1.203607	0.005663
SERTAD4	-1.184138	0.000017
BEX1	-1.150646	0.000001
ACTG2	-1.099449	0.012972
NXF3	-1.083458	0.000001
PCDH10	-1.051205	0.000005
OASL	-1.035911	0.018382
SLC28A3	-1.027295	0.004323
CCNJL	-1.018055	0.000124
LTF	-0.996177	0.000120
KIAA0408	-0.979244	0.001950
ROBO4	-0.973190	0.018833
HHAT	-0.950967	0.000381
IGFBP2	-0.943078	0.030018
NR4A3	-0.921986	0.034586
LIF	-0.892138	0.000001
ABCG2	-0.877864	0.007352
LRRC15	-0.872425	0.000001
RASSF2	-0.835682	0.032745
WNT5B	-0.823335	0.000001
KRT34	-0.809349	0.000001
CCL11	-0.798825	0.001717
PKNOX2	-0.797828	0.001231
ADCY4	-0.766484	0.000903
UCN2	-0.744362	0.002790
ZNF551	-0.740425	0.000198
DNER	-0.730832	0.000044
SCN3A	-0.728815	0.000001
IL1A	-0.714614	0.000001
HES1	-0.696287	0.008853
RASGRP1	-0.687109	0.002172
ALG14	-0.667623	0.017116
TGM2	-0.627480	0.000001
MRAP2	-0.622755	0.042194
MLPH	-0.619986	0.004986
SCUBE3	-0.616643	0.000040
EGR1	-0.614303	0.000001
KRT14	-0.611355	0.000001
PLS1	-0.606381	0.005762
ADAMTS14	-0.598242	0.022239
COCH	-0.583534	0.000006
COL7A1	-0.580943	0.000004
MICAL1	-0.576692	0.000001

*FDR≤0.05, adjusted p-values of less than 0.000001 are listed as 0.000001

Supplemental Table 7: PCB52 induced gene changes across all time points

Gene Symbol	Entrez ID	logFC 9h	p-value	logFC 1d	p-value	logFC 3d	p-value
TFPI2	7980	0.594026	0.000001	0.637349	0.000001	0.752925	0.000001
STC1	6781	0.469472	0.02514	0.58771	0.025202	0.48593	0.000571
PDE7B	27115	0.460571	0.000633	0.849403	0.000001	0.546213	0.000001
FGF7	2252	0.337375	0.008911	0.303552	0.032634	0.394256	2.66E-05
RGS7BP	401190	-0.42626	2.91E-06	-0.38038	2.90E-05	-0.41321	2.25E-06
CPT1A	1374	-0.49684	0.000001	-0.58285	0.000001	-0.53893	0.000001
SLC25A20	788	-0.62242	0.000001	-0.69576	0.000001	-0.47068	3.18E-05
PLIN2	123	-0.83136	0.000001	-0.7254	0.000001	-0.58344	0.000001

Supplemental Table 8: 4-OH-PCB52 induced changes across all time points

Gene	Entrez ID	logFC 9h	p-value	logFC d1	p-value	LogFC d3	p-value
STMN2	11075	2.837	1.00E-06	2.481	1.00E-06	3.042	1.00E-06
FGL2	10875	2.029	1.00E-06	1.774	1.00E-06	1.37	1.00E-06
CD34	947	1.565	1.00E-06	1.511	1.00E-06	0.724	1.00E-06
EMCN	51705	1.37	9.98E-04	1.603	6.59E-05	1.469	0.009
PI16	221476	1.348	1.00E-06	1.219	1.00E-06	1.137	1.00E-06
NXPH2	11249	1.149	1.00E-06	1.108	1.00E-06	1.098	1.00E-06
DDIT4L	115265	1.117	1.00E-06	0.792	1.00E-06	0.562	2.35E-04
CAVIN2	8436	1.044	1.00E-06	0.925	1.00E-06	0.617	4.41E-06
PTPRZ1	5803	0.911	0.042	1.401	4.18E-04	1.485	6.54E-04
SBSPON	157869	0.826	1.00E-06	1.113	1.00E-06	0.918	1.00E-06
ELN	2006	0.819	1.00E-06	0.895	1.00E-06	0.554	6.28E-05
MYO16	23026	0.801	0.009	0.784	0.026	0.746	0.017
METTL24	728464	0.786	0.009	1.119	1.14E-05	0.82	0.002
AADAC	13	0.76	1.00E-06	0.869	1.00E-06	1.485	1.00E-06
SAA1	6288	0.758	1.00E-06	0.756	1.82E-06	0.411	2.68E-05
ADGRD1	283383	0.752	1.00E-06	0.617	1.00E-06	0.345	1.00E-06
PALM	5064	0.711	7.04E-05	0.692	1.13E-04	0.923	1.00E-06
THBD	7056	0.672	1.00E-06	0.818	1.00E-06	0.542	0.014
CRLF1	9244	0.657	0.049	1.731	1.00E-06	1.54	1.11E-05
ZNF521	25925	0.652	0.001	0.587	0.004	0.494	0.05
MFAP5	8076	0.646	1.00E-06	0.678	1.00E-06	0.376	1.00E-06
SPOPL	339745	0.642	1.00E-06	0.767	1.00E-06	0.592	1.00E-06
CYGB	114757	0.594	0.023	0.694	0.006	0.658	0.012
PLXNA2	5362	0.594	1.00E-06	0.455	1.00E-06	0.333	0.004
C3	718	0.591	5.28E-05	0.595	5.36E-05	0.481	0.007
GPC4	2239	0.58	0.028	0.631	0.012	0.811	0.002
BCYRN1	618	0.573	1.00E-06	0.665	1.00E-06	0.571	1.00E-06
CRIP1	1396	0.57	1.00E-06	0.729	1.00E-06	0.535	1.93E-05
VTN	7448	0.569	0.003	0.487	0.02	0.547	0.005
GPX3	2878	0.559	1.00E-06	0.705	1.00E-06	0.609	1.00E-06
FMOD	2331	0.555	1.00E-06	0.533	1.00E-06	0.547	1.00E-06
FLT1	2321	0.531	3.52E-04	0.611	1.26E-04	0.558	0.004
PODN	127435	0.513	1.00E-06	0.49	1.00E-06	0.447	1.00E-06
KCND2	3751	0.499	2.22E-04	0.325	0.028	0.394	0.008
ID2	3398	0.485	1.00E-06	0.391	1.00E-06	0.317	1.00E-06
PENK	5179	0.479	0.005	0.649	1.96E-05	0.663	0.012
PDE3A	5139	0.472	5.08E-06	0.365	0.004	0.45	3.95E-04
COL15A1	1306	0.452	0.001	0.404	0.004	0.524	1.42E-05
WNT2	7472	0.431	1.00E-06	0.496	1.00E-06	0.389	1.00E-06
PLTP	5360	0.414	1.00E-06	0.387	1.00E-06	0.343	1.00E-06
SERPING1	710	0.408	1.00E-06	0.313	3.96E-04	0.345	1.82E-04
IGFBP3	3486	0.394	1.00E-06	0.43	1.00E-06	0.385	1.00E-06
FBLN2	2199	0.392	1.00E-06	0.44	1.00E-06	0.361	1.00E-06
MAL2	114569	0.386	2.08E-04	0.728	1.00E-06	0.464	7.53E-06
TNXB	7148	0.375	1.00E-06	0.378	1.00E-06	0.437	1.00E-06
CXCL5	6374	0.374	2.82E-04	0.362	1.62E-04	0.371	3.42E-06
LACC1	144811	0.332	1.00E-06	0.588	1.00E-06	0.399	1.00E-06
STARD5	80765	0.331	0.023	0.375	0.005	0.405	0.004
FRAS1	80144	0.321	1.27E-04	0.327	8.13E-05	0.35	1.07E-04
FHL1	2273	0.316	1.00E-06	0.511	1.00E-06	0.493	1.00E-06
S100A4	6275	0.307	0.007	0.54	1.00E-06	0.534	1.00E-06
EFEMP1	2202	0.305	1.00E-06	0.354	1.00E-06	0.387	1.00E-06

BIRC3	330	-0.333	5.79E-05	-0.323	3.85E-05	-0.328	8.26E-05
ACKR3	57007	-0.336	0.012	-0.368	0.002	-0.474	2.35E-04
ANPEP	290	-0.336	1.00E-06	-0.32	1.00E-06	-0.308	1.00E-06
COL7A1	1294	-0.369	0.003	-0.451	1.36E-04	-0.581	3.75E-06
DAB2IP	153090	-0.424	1.00E-06	-0.477	1.00E-06	-0.377	1.00E-06
LRIG1	26018	-0.441	1.00E-06	-0.372	1.00E-06	-0.509	1.00E-06
PDLIM1	9124	-0.457	1.00E-06	-0.481	1.00E-06	-0.359	1.00E-06
SCN3A	6328	-0.476	1.00E-06	-0.528	1.00E-06	-0.729	1.00E-06
UCN2	90226	-0.498	0.004	-0.614	6.17E-04	-0.744	0.003
COCH	1690	-0.507	1.97E-05	-0.593	1.00E-06	-0.584	5.73E-06
DENND2A	27147	-0.519	0.022	-0.572	0.002	-0.437	0.005
COL4A6	1288	-0.522	1.05E-04	-0.346	0.015	-0.51	9.39E-04
PCDH10	57575	-0.535	0.012	-0.501	0.029	-1.051	5.31E-06
DYSF	8291	-0.573	1.00E-06	-0.482	2.18E-05	-0.525	2.89E-05
SLC7A2	6542	-0.603	6.07E-04	-0.513	0.044	-0.49	0.039
SERTAD4	56256	-0.613	0.034	-0.716	0.008	-1.184	1.73E-05
NXF3	56000	-0.619	1.18E-04	-0.557	3.10E-04	-1.083	1.00E-06
GALNT16	57452	-0.627	9.60E-05	-0.814	1.00E-06	-0.385	0.036
MCOLN3	55283	-0.641	1.00E-06	-0.898	1.00E-06	-0.475	8.66E-06
TNC	3371	-0.641	1.00E-06	-0.422	1.00E-06	-0.47	1.00E-06
APCDD1L	164284	-0.675	9.52E-04	-0.562	0.013	-1.491	1.00E-06
BEX1	55859	-0.675	1.00E-06	-0.425	1.00E-06	-1.151	1.00E-06
LIF	3976	-0.709	1.00E-06	-0.717	1.00E-06	-0.892	1.00E-06
FHDC1	85462	-0.724	1.00E-06	-0.672	1.00E-06	-0.507	1.00E-06
NPTXR	23467	-0.741	1.00E-06	-0.407	2.93E-04	-0.443	4.20E-04
SCUBE3	222663	-0.786	1.00E-06	-0.575	1.00E-06	-0.617	4.04E-05
ITGA7	3679	-0.793	1.00E-06	-0.771	1.00E-06	-0.56	1.00E-06
SECTM1	6398	-0.844	1.00E-06	-0.686	1.00E-06	-0.476	2.36E-05
IGFBP2	3485	-0.868	0.044	-0.824	0.049	-0.943	0.03
WNT5B	81029	-0.888	1.00E-06	-0.543	1.00E-06	-0.823	1.00E-06
MMP1	4312	-0.96	1.00E-06	-0.548	1.00E-06	-1.217	1.00E-06
DNER	92737	-0.968	1.00E-06	-1.011	1.00E-06	-0.731	4.43E-05
CCL2	6347	-1.026	1.00E-06	-0.65	1.00E-06	-0.527	1.00E-06
MLPH	79083	-1.083	1.00E-06	-0.827	1.00E-06	-0.62	0.005
FRMPD4	9758	-1.105	1.00E-06	-0.682	7.93E-05	-0.457	0.038
RRAD	6236	-1.153	1.00E-06	-0.541	1.00E-06	-0.348	0.01
DPT	1805	-1.67	0.018	-1.74	7.65E-04	-1.204	0.006
PKNOX2	63876	-1.835	1.00E-06	-1.105	1.00E-06	-0.798	0.001

Supplemental Table 9: Biological pathways altered by PCB52 at 9 hours

Biological Pathway	countDE	countAll	pv
PPAR signaling pathway	4	45	0.000277
Insulin resistance	4	88	0.006380
Cytokine-cytokine receptor interaction	3	106	0.009259

Supplemental Table 10: biological pathways altered by 4-OH-PCB52 at 9 hours

Biological Pathway	countDE	countAll	pv
Viral protein interaction with cytokine and cytokine receptor	9	33	9.07E-07
Cytokine-cytokine receptor interaction	16	118	1.05E-06
Neuroactive ligand-receptor interaction	12	81	1.3E-05
Complement and coagulation cascades	10	42	1.41E-05
TNF signaling pathway	14	96	2.95E-05
TGF-beta signaling pathway	12	74	5.02E-05
ECM-receptor interaction	9	56	0.000477
Signaling pathways regulating pluripotency of stem cells	12	99	0.000609
Transcriptional misregulation in cancer	13	118	0.000827
Hippo signaling pathway	13	118	0.000854
Rheumatoid arthritis	8	56	0.001185
Protein digestion and absorption	8	53	0.001687
Cholesterol metabolism	5	29	0.002447
NF-kappa B signaling pathway	9	72	0.002765
Apelin signaling pathway	9	104	0.003813
IL-17 signaling pathway	7	61	0.005016
Renin secretion	7	45	0.005620
Arachidonic acid metabolism	5	29	0.009646
Focal adhesion	10	158	0.017636
Chemokine signaling pathway	9	113	0.017695
Human papillomavirus infection	15	255	0.021398
Wnt signaling pathway	10	110	0.021619
Axon guidance	9	134	0.031397
Staphylococcus aureus infection	4	28	0.033735
Vascular smooth muscle contraction	8	88	0.033908

Supplemental Table 11: Biological pathways altered by PCB52 at day 1

Biological Pathway	countDE	countAll	pv
Neuroactive ligand-receptor interaction	3	59	0.001174
Fatty acid degradation	3	33	0.002418
Fatty acid metabolism	3	49	0.006758
Breast cancer	4	97	0.007708
Cell adhesion molecules	3	60	0.011221
Morphine addiction	2	43	0.015965
Melanogenesis	3	63	0.019468
Vascular smooth muscle contraction	2	79	0.025284
cGMP-PKG signaling pathway	3	102	0.028218
PPAR signaling pathway	2	45	0.029122
Purine metabolism	3	90	0.029549
Hematopoietic cell lineage	2	32	0.032317
HIF-1 signaling pathway	2	82	0.040807
Fluid shear stress and atherosclerosis	3	106	0.043758
Transcriptional misregulation in cancer	3	113	0.049259

Supplemental Table 12: Biological pathways altered by 4-OH-PCB52 at day 1

Biological Pathway	countDE	countAll	pv
ECM-receptor interaction	9	59	0.000703
Neuroactive ligand-receptor interaction	10	85	0.000763
TGF-beta signaling pathway	9	75	0.001639
Complement and coagulation cascades	7	42	0.001733
Rheumatoid arthritis	7	56	0.003154
Taste transduction	5	23	0.004399
Cytokine-cytokine receptor interaction	11	126	0.004758
Linoleic acid metabolism	3	8	0.005900
Arrhythmogenic right ventricular cardiomyopathy	6	50	0.007227
Arachidonic acid metabolism	5	30	0.007935
Transcriptional misregulation in cancer	10	118	0.012527
Cholesterol metabolism	4	29	0.012832
Apelin signaling pathway	8	106	0.013084
Signaling pathways regulating pluripotency of stem cells	9	101	0.013898
Wnt signaling pathway	9	110	0.015331
alpha-Linolenic acid metabolism	3	12	0.017874
Focal adhesion	11	160	0.019932
Protein digestion and absorption	6	56	0.023737
Hippo signaling pathway	8	119	0.027494
Human papillomavirus infection	14	259	0.029324
Vascular smooth muscle contraction	7	89	0.029912
Cushing syndrome	7	114	0.038913
Melanogenesis	5	70	0.041951
Calcium signaling pathway	9	119	0.043122
Dilated cardiomyopathy	5	59	0.046690

Supplemental Table 13: Biological pathways altered by PCB52 at day 3

Biological Pathway	countDE	countAll	pv
Chemokine signaling pathway	9	104	2.56E-08
Cytokine-cytokine receptor interaction	11	95	3.20E-08
Viral protein interaction with cytokine and cytokine receptor	8	26	1.85E-07
IL-17 signaling pathway	8	57	2.51E-06
Rheumatoid arthritis	8	49	5E-06
African trypanosomiasis	2	15	0.000147
Retinol metabolism	3	16	0.003107
PPAR signaling pathway	4	43	0.003131
TNF signaling pathway	5	92	0.004269
Pertussis	4	52	0.004378
NOD-like receptor signaling pathway	5	122	0.004637
AGE-RAGE signaling pathway in diabetic complications	4	85	0.007869
Chagas disease	3	67	0.010158
Legionellosis	3	42	0.013811
NF-kappa B signaling pathway	3	68	0.026355
Amoebiasis	4	63	0.027839
Malaria	2	22	0.031086
Morphine addiction	3	41	0.032314
Serotonergic synapse	3	46	0.032383
Apelin signaling pathway	4	94	0.03255
Long-term depression	2	39	0.043755
Ovarian steroidogenesis	2	25	0.045988

Supplemental Table 14: Biological pathways altered by 4-OH-PCB52 at day 3 (top 25 of 51 shown)

Biological Pathway	countDE	countAll	pv
Rheumatoid arthritis	10	59	3.47E-06
Cytokine-cytokine receptor interaction	21	130	3.86E-06
AGE-RAGE signaling pathway in diabetic complications	11	91	7.26E-06
Hematopoietic cell lineage	9	38	7.75E-06
NF-kappa B signaling pathway	12	72	7.94E-06
Viral protein interaction with cytokine and cytokine receptor	8	37	2.43E-05
TNF signaling pathway	12	98	2.74E-05
IL-17 signaling pathway	9	64	3.46E-05
Pathways in cancer	25	404	5.91E-05
ECM-receptor interaction	9	61	7.08E-05
Transcriptional misregulation in cancer	12	122	0.000219
Pertussis	8	59	0.000446
Fluid shear stress and atherosclerosis	11	111	0.000488
Human papillomavirus infection	16	262	0.000811
Malaria	5	28	0.000823
Legionellosis	7	47	0.000975
Basal cell carcinoma	7	48	0.00126
PI3K-Akt signaling pathway	14	246	0.001632
Focal adhesion	11	161	0.002017
Hypertrophic cardiomyopathy	7	59	0.002346
Wnt signaling pathway	10	114	0.002704
Neuroactive ligand-receptor interaction	6	91	0.003003
Signaling pathways regulating pluripotency of stem cells	9	103	0.003633
Complement and coagulation cascades	6	43	0.004425
Dilated cardiomyopathy	6	60	0.005348

Supplemental Table 15: Upstream regulatory genes across time points for PCB52 or 4-OH-PCB52 treatments

Gene symbol	PCB52, 9h		PCB52, 1d		PCB52, 3d	
	consistent (-)/ DE targets	p-value	consistent (-)/ DE targets	p-value	consistent (-)/ DE targets	p-value
PPARA	4/5	0.025	4/4	0.017	5/6	0.029
CREBBP	4/5	0.025	4/4	0.017	2/3	0.649
EP300	3/3	0.030	4/4	0.017	1/2	1.000
	4-OH-PCB52, 9h		4-OH-PCB52, 1d		4-OH-PCB52, 3d	
IL17A	7/8	0.211	7/7	0.023	8/9	0.003
PTH	6/8	0.241	7/9	0.028	6/7	0.023