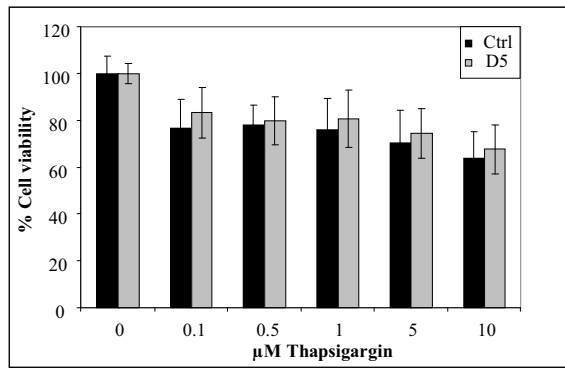
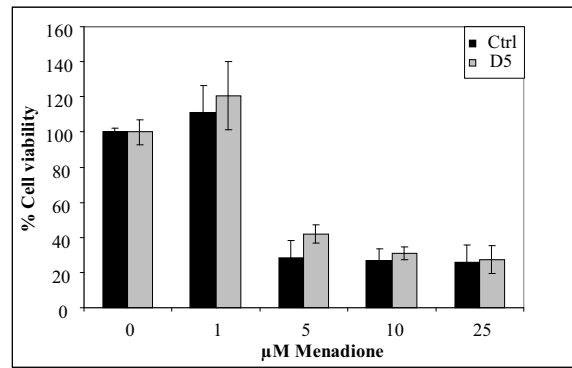


Supplementary Figure 1

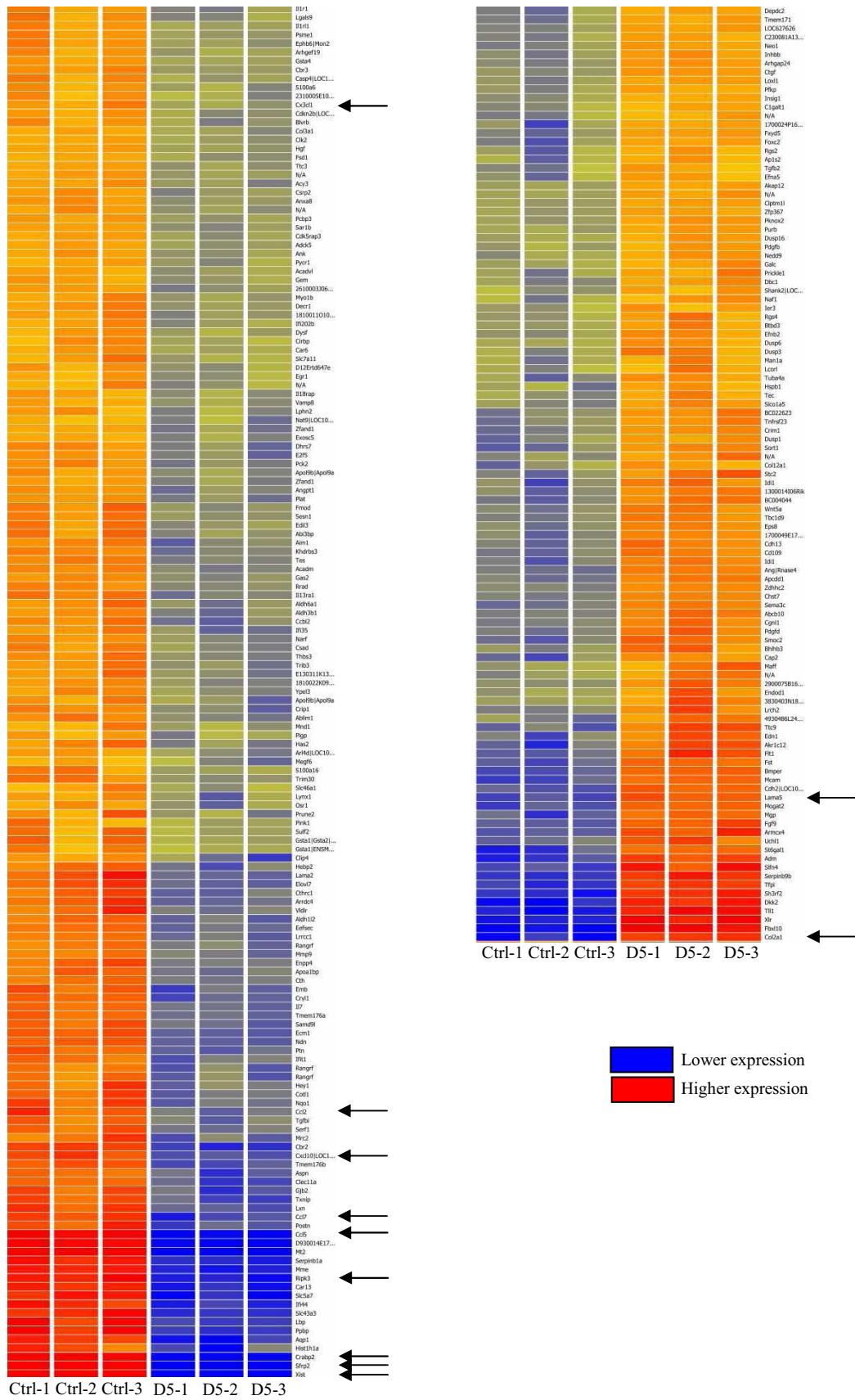
A



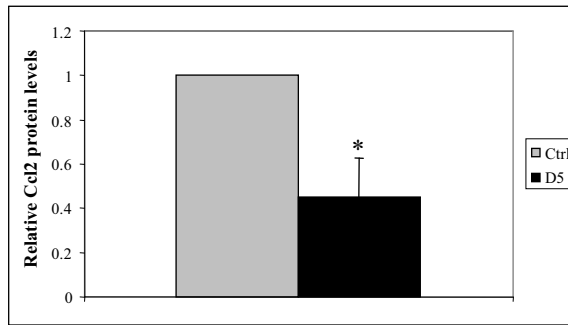
B



Supplementary Figure 2

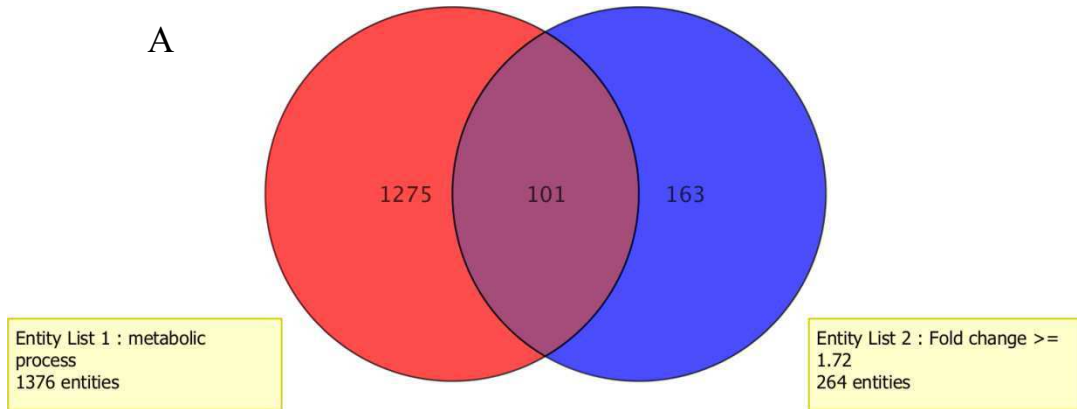


Supplementary Figure 3



Supplementary Figure 4

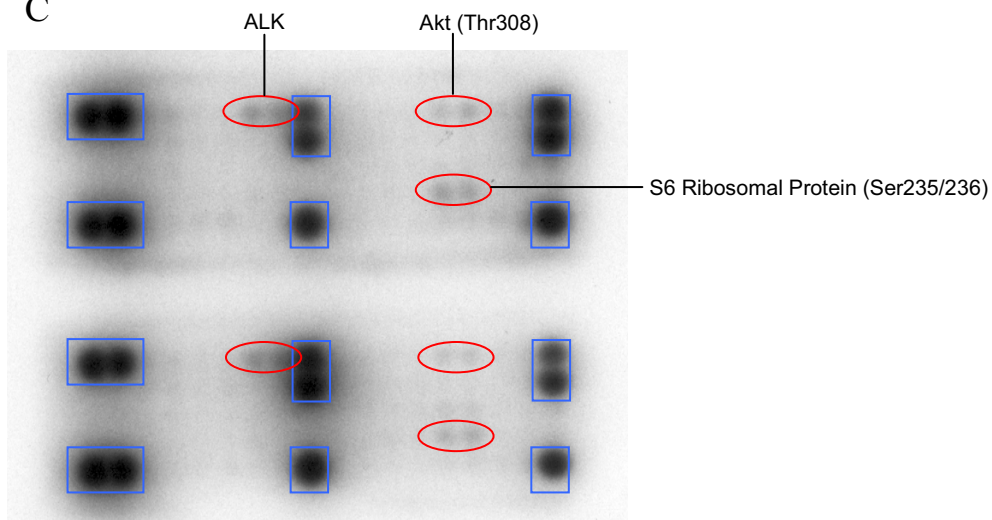
A



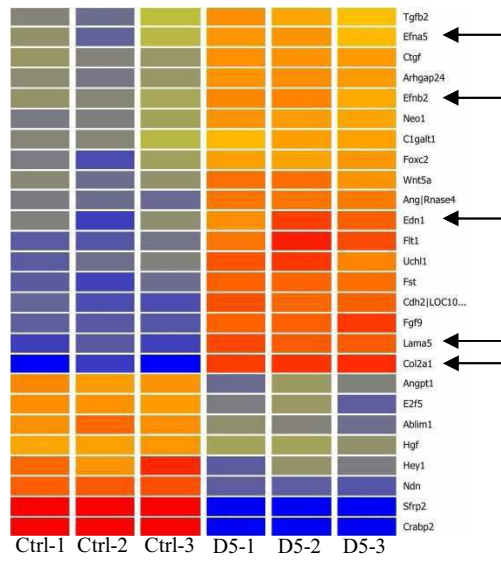
B

Biological Pathway Analysis of metabolic genes	Count	%
Oxidation/reduction	16	16,2
Phosphorus metabolic process	14	14,1
Phosphate metabolic process	14	14,1
Protein amino acid phosphorylation	10	10,1
Phosphorylation	10	10,1
Enzyme linked receptor protein signaling pathway	9	9,1
transmembrane receptor protein tyrosine kinase signaling pathway	8	8,1

C

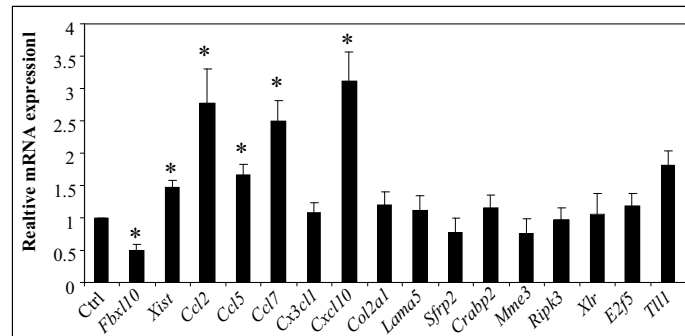


Supplementary Figure 5

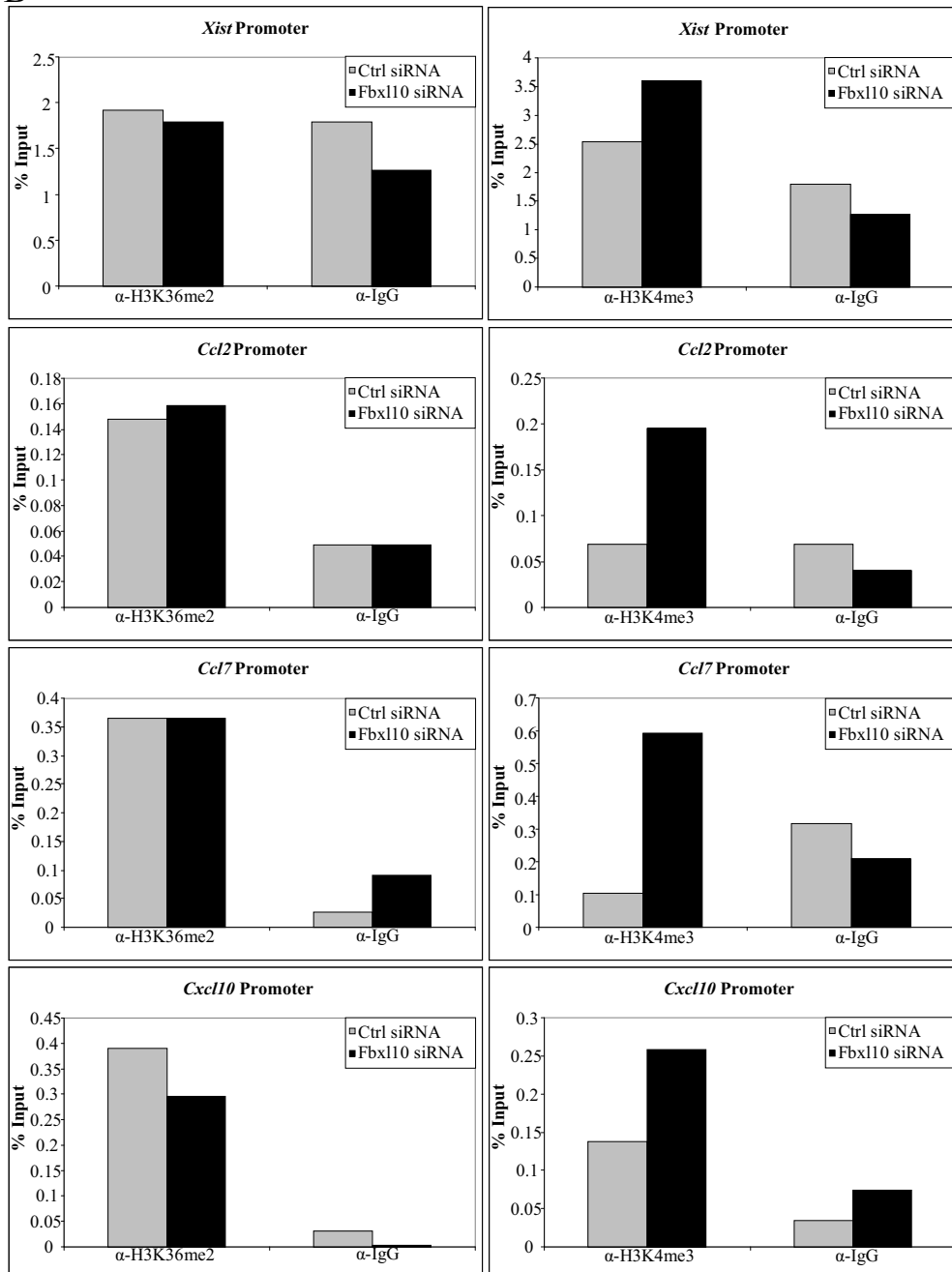


Supplementary Figure 6

A



B



Supplementary Table 1: Fold change > 2.0

Transcripts Cluster Id	Fold change([c] vs [d])	Regulation([c] vs [d])	genesymbol
10349947	2,0185196	up	Fmod
10368092	2,3247497	up	Hebp2
10368409	2,7050016	up	Lama2
10368947	2,1093938	up	Aim1
10371332	2,3774958	up	Aldh1l2
10379511	2,498809	up	Ccl2
10379518	3,1114695	up	Ccl7
10379636	3,2250414	down	Slfn4
10381408	2,064001	up	Ifi35
10381898	2,4381895	up	Mrc2
10384961	2,1959867	down	Stc2
10387219	2,182177	up	Rangrf
10389207	4,985033	up	Ccl5
10393936	3,2269564	up	Cbr2
10396952	2,5336974	down	Ttc9
10399005	2,0936263	up	Crip1
10400941	2,0257242	up	Dhrs7
10401473	2,0212188	up	Aldh6a1
10403413	2,191143	down	Idi1
10404069	2,9476492	up	Hist1h1a
10404439	3,4050255	down	Serpib9b
10404783	2,368587	down	Edn1
10404913	2,0929923	down	Cap2
10405047	2,5236857	up	Aspn
10405587	2,2940283	up	Tgfb1
10406877	2,3584483	up	Serf1
10407072	2,670656	up	Elovl7
10407327	2,6138093	up	Emb
10407445	2,6469412	down	Akr1c12
10408557	3,713821	up	Serpib1a
10408629	2,1302078	down	1300014I06Rik
10409857	2,106248	down	4930486L24Rik
10412260	2,5084043	down	Fst
10413482	2,0846803	down	Wnt5a
10414245	2,0991228	down	1700049E17Rik

10414537	2,2203555	down	AnglRnase4
10415248	2,0136685	up	Pck2
10415651	2,6496415	down	Fgf9
10420198	3,9608052	up	Ripk3
10420362	2,742642	up	Gjb2
10420372	2,5664954	up	Cryl1
10423836	2,4623888	up	Cthrc1
10424559	2,0834734	up	Khdrbs3
10428707	2,0488906	up	Has2
10432045	4,2519007	down	Col2a1
10434758	2,7380004	down	St6gal1
10434932	2,0115964	down	BC022623
10436304	2,0250304	up	Abi3bp
10441902	2,3289142	down	Smoc2
10446739	2,0601952	up	Clip4
10446986	2,0297766	down	Crim1
10451054	2,3303342	up	Enpp4
10451838	3,9446802	up	Slc5a7
10455299	3,5632722	down	Sh3rf2
10456184	2,1809506	down	Apcdd1
10457644	2,5987916	down	Cdh2
10462281	2,3756263	up	Vldlr
10462623	2,3125894	up	Ifit1
10464560	2,013742	up	Aldh3b1
10468691	2,0572517	up	Ablim1
10473384	3,6860065	up	Slc43a3
10478048	3,5698469	up	Lbp
10478633	2,1745474	up	Mmp9
10482762	2,1987135	down	Idi1
10484389	3,2233043	down	Tfpi
10490384	2,7803972	down	Lama5
10490872	2,2890162	up	Lrrcc1
10490903	3,7098773	up	Car13
10492021	2,838398	up	Postn
10492355	3,8051453	up	Mme
10492798	16,845009	up	Sfrp2
10493108	6,6011953	up	Crabp2

10493449	2,0227156	up	Thbs3
10494428	2,7711818	up	Txnip
10495285	2,1142733	down	Sort1
10496125	3,8872027	down	Dkk2
10496605	2,165922	up	Ccbl2
10497188	2,362999	up	Ii7
10497203	2,3294194	up	Hey1
10498576	2,80118	up	Lxn
10499309	2,3018272	up	Apoa1bp
10500204	2,6511865	up	Ecm1
10500683	2,2766564	up	Rangrf
10502791	3,5275402	up	Ifi44
10502951	2,0731506	up	Acadm
10503023	2,2586184	up	Cth
10519886	2,1858182	down	Sema3c
10522208	2,4477682	down	Uchl1
10523128	3,7312763	up	Ppbp
10526853	2,238378	down	BC004044
10531415	2,870101	up	Cxcl10
10533569	4,6580815	down	Fbxl10
10535807	2,6605794	down	Fit1
10536483	2,099264	up	Tes
10538150	2,417709	up	Tmem176a
10538459	3,6123495	up	Aqp1
10542911	2,46169	up	Samd9l
10543959	2,4986053	up	Ptn
10544596	2,7572196	up	Tmem176b
10546104	2,352781	up	Eefsec
10548879	2,5480316	down	Mgp
10548905	2,0354562	down	Eps8
10549276	2,0782607	down	Bhlhb3
10553833	2,6101627	up	Ndn
10556208	4,8129215	up	D930014E17Rik
10556297	3,082966	down	Adm
10558910	2,2893865	up	Rangrf
10562761	2,6461406	up	Clec11a
10564507	2,569824	up	Arrdc4

10565786	2,657476	down	Mogat2
10566358	2,0135567	up	Trim30
10571384	2,055027	down	2900075B16Rik
10571399	2,0203824	down	Zdhhc2
10573128	2,0808456	down	Tbc1d9
10574023	5,025931	up	Mt2
10575844	2,1623735	down	Cdh13
10578880	4,1425166	down	Tll1
10581538	2,5736473	up	Nqo1
10582162	2,4596176	up	Cotl1
10582626	2,167196	down	Abcb10
10583021	2,2207143	down	Pdgfd
10583870	2,6399395	down	Bmper
10584674	2,6280537	down	Mcam
10587383	2,1731236	down	Cd109
10594855	2,1248088	down	Cgnl1
10598833	2,0729537	down	Chst7
10599174	2,1796978	up	Il13ra1
10601768	2,8242118	down	Armcx4
10604656	4,1068053	down	Xlr
10606178	12,644036	up	Xist
10607225	2,159083	down	Lrch2

Supplementary Table 2 Fold change >1.72

Transcripts Cluster Id	Fold change([c] vs [d])	Regulation([c] vs [d])	genesymbol
10344837	1,8685813	down	Depdc2
10345762	1,9308772	up	Il1r1
10345791	1,7988302	up	Il1r1
10345824	1,7833953	up	Il18rap
10346015	1,7301016	up	Col3a1
10354432	1,798501	up	Myo1b
10355806	1,936994	down	Tuba4a
10357155	1,901109	down	Inhbb
10358389	1,789699	down	Rgs2
10359908	1,8094392	down	Rgs4
10360398	1,7889454	up	Ifi202b

10360920	1,7664295	down	Tgfb2
10362201	1,8666977	down	Ctgf
10362811	1,9750482	up	Sesn1
10364712	1,735593	up	Cirbp
10366043	1,7223457	down	Dusp6
10366293	1,8527201	up	Csrp2
10367634	1,7291744	down	Akap12
10369154	1,7934022	down	Man1a
10370242	1,7887892	up	Pcbp3
10375893	1,8151299	up	Sar1b
10376887	1,8472012	up	
10379184	1,731849	up	Slc46a1
10381474	1,8478749	up	Arl4d
10383532	1,9471744	up	Narf
10384150	1,7226981	down	Purb
10387768	1,7387538	up	Acadvl
10388902	1,9109592	up	Lgals9
10390283	1,7615943	up	Cdk5rap3
10391513	1,8727214	down	Dusp3
10392856	1,730437	up	Nat9
10393887	1,7443689	up	Pycr1
10394534	1,8717893	up	Osr1
10397975	1,7820538	up	D12Erd647e
10401968	1,7248687	down	Galc
10406067	1,7571944	down	Clptm1l
10406504	1,9766463	up	Edil3
10407481	1,7644788	down	Pfkip
10408850	1,7859792	down	Nedd9
10410092	1,7410319	down	Zfp367
10411459	1,8591299	down	Tmem171
10414065	1,85319	up	Anxa8
10415282	1,8466594	up	Psme1
10423363	1,7910284	up	Ank
10424929	1,7629397	up	Adck5
10425049	1,8553932	up	Apol9b Apol9a
10425283	1,8943094	down	Maff
10428376	1,9471653	up	Angpt1

10429515	1,8749421	up	Lynx1
10430174	1,9393712	up	Apol9b Apol9a
10430660	1,7308462	down	Pdgfb
10431738	1,8524629	down	Prickle1
10432939	1,9750267	up	Csad
10436196	1,7636477	up	
10436978	1,8671557	up	Cbr3
10437080	1,7756072	up	Ttc3
10442904	1,8547914	up	2610003J06Rik
10444890	1,720375	down	Ier3
10445237	1,865774	down	LOC627626
10446001	1,7352318	up	Fsd1
10449284	1,9294127	down	Dusp1
10452419	1,7981743	down	Efna5
10454782	1,7332491	up	Egr1
10460263	1,8392911	up	Acy3
10461869	1,9403365	up	Prune2
10476538	1,786025	down	Btbd3
10488029	1,8630521	up	Zfand1
10488608	1,977772	up	Trib3
10489759	1,8590957	up	Sulf2
10490894	1,9954771	up	E2f5
10493394	1,7337002	up	Clk2
10493798	1,8634024	up	S100a16
10493820	1,789774	up	S100a6
10497300	1,8565325	up	Zfand1
10497335	1,9494097	up	1810022K09Rik
10498024	1,7562462	up	Slc7a11
10498477	1,9987535	up	E130311K13Rik
10499035	1,7371848	up	Mnd1
10502772	1,8183334	up	Lphn2
10502949	1,7743248	up	
10503334	1,7655979	up	Gem
10506470	1,9062203	down	1700024P16Rik
10509947	1,7753454	up	Arhgef19
10510878	1,7560085	up	Megf6
10511679	1,8602443	up	Decr1

10513805	1,8927995	down	Dbc1
10514347	1,817671	up	Cdkn2b
10517600	1,7375684	up	Pink1
10518751	1,7345167	up	Car6
10519857	1,7420777	up	Hgf
10520362	1,7419034	down	Insig1
10523579	1,9155074	down	Arhgap24
10526410	1,7737281	down	Hspb1
10529923	1,741175	down	Lcorl
10530536	1,8224391	down	Tec
10536369	1,735698	down	C1galt1
10537157	1,7650263	up	2310005E10Rik
10537657	1,8746403	up	Ephb6 Mon2
10539517	1,7374016	up	Dysf
10545409	1,7428466	up	Vamp8
10545528	1,7308694	up	Pigp
10548735	1,7254977	down	Dusp16
10549041	1,9184736	down	Slco1a5
10551173	1,7696066	up	Exosc5
10551347	1,85922	up	Blvrb
10553521	1,9381909	up	Gas2
10557481	1,9133798	up	Ypel3
10559333	1,7332394	down	Shank2
10562192	1,9448656	down	Fxyd5
10569504	1,9893849	down	Tnfrsf23
10570855	1,9794952	up	Plat
10572077	1,7499053	down	Naf1
10574220	1,8016253	up	Cx3cl1
10576051	1,9489167	down	Foxc2
10576911	1,862695	down	Efnb2
10577641	1,8982402	up	1810011O10Rik
10581151	1,9849527	up	Rrad
10582896	1,7654147	down	
10582916	1,949495	down	
10582997	1,8235102	up	Casp4
10586174	1,7470022	down	
10587315	1,7524824	up	Gsta4

10587323	1,9024745	up	Gsta1 Gsta2
10587331	1,7434449	up	Gsta1
10590909	1,8717005	down	Endod1
10592251	1,8195888	down	Pknox2
10593856	1,820235	down	C230081A13Rik
10594066	1,8258604	down	Loxl1
10594110	1,8625348	down	Neo1
10595211	1,8347667	down	Col12a1
10599680	1,9538494	down	3830403N18Rik
10601583	1,9330322	down	
10603051	1,7537897	down	Ap1s2

Supplementary Table 3 Metabolic process genes

Transcripts Cluster Id	Fold change([c] vs [d])	Regulation([c] vs [d])	genesymbol
10354432	1,798501	up	Myo1b
10355806	1,936994	down	Tuba4a
10360920	1,7664295	down	Tgfb2
10362201	1,8666977	down	Ctgf
10366043	1,7223457	down	Dusp6
10369154	1,7934022	down	Man1a
10371332	2,3774958	up	Aldh1l2
10381474	1,8478749	up	Arl4d
10384150	1,7226981	down	Purb
10387768	1,7387538	up	Acadvl
10391513	1,8727214	down	Dusp3
10392856	1,730437	up	Nat9
10393887	1,7443689	up	Pycr1
10393936	3,2269564	up	Cbr2
10396952	2,5336974	down	Ttc9
10400941	2,0257242	up	Dhrs7
10401473	2,0212188	up	Aldh6a1
10401968	1,7248687	down	Galc
10403413	2,191143	down	Idi1
10404439	3,4050255	down	Serpib9b

10407072	2,670656	up	Elov17
10407445	2,6469412	down	Akr1c12
10407481	1,7644788	down	Pfkp
10409857	2,106248	down	4930486L24Rik
10410092	1,7410319	down	Zfp367
10414537	2,2203555	down	AnglRnase4
10415248	2,0136685	up	Pck2
10420198	3,9608052	up	Ripk3
10420372	2,5664954	up	Cryl1
10424559	2,0834734	up	Khdrbs3
10424929	1,7629397	up	Adck5
10425283	1,8943094	down	Maff
10428707	2,0488906	up	Has2
10432045	4,2519007	down	Col2a1
10432939	1,9750267	up	Csad
10434758	2,7380004	down	St6gal1
10436978	1,8671557	up	Cbr3
10449284	1,9294127	down	Dusp1
10451054	2,3303342	up	Enpp4
10451838	3,9446802	up	Slc5a7
10454782	1,7332491	up	Egr1
10455299	3,5632722	down	Sh3rf2
10460263	1,8392911	up	Acy3
10462281	2,3756263	up	Vldlr
10464560	2,013742	up	Aldh3b1
10478633	2,1745474	up	Mmp9
10482762	2,1987135	down	Idi1
10488608	1,977772	up	Trib3
10489759	1,8590957	up	Sulf2
10490894	1,9954771	up	E2f5
10490903	3,7098773	up	Car13
10492355	3,8051453	up	Mme
10493108	6,6011953	up	Crabp2
10493394	1,7337002	up	Clk2
10494428	2,7711818	up	Txnip
10496605	2,165922	up	Ccbl2
10497203	2,3294194	up	Hey1

10499035	1,7371848	up	Mnd1
10502951	2,0731506	up	Acadm
10503023	2,2586184	up	Cth
10511679	1,8602443	up	Decr1
10514347	1,817671	up	Cdkn2b
10517600	1,7375684	up	Pink1
10518751	1,7345167	up	Car6
10519857	1,7420777	up	Hgf
10520362	1,7419034	down	Insig1
10522208	2,4477682	down	Uchl1
10529923	1,741175	down	Lcorl
10530536	1,8224391	down	Tec
10533569	4,6580815	down	Fbxl10
10535807	2,6605794	down	Fit1
10536369	1,735698	down	C1galt1
10537657	1,8746403	up	Ephb6 Mon2
10545528	1,7308694	up	Pigp
10546104	2,352781	up	Eefsec
10548735	1,7254977	down	Dusp16
10548905	2,0354562	down	Eps8
10549276	2,0782607	down	Bhlhb3
10551173	1,7696066	up	Exosc5
10551347	1,85922	up	Blvrbl
10553833	2,6101627	up	Ndn
10565786	2,657476	down	Mogat2
10566358	2,0135567	up	Trim30
10570855	1,9794952	up	Plat
10571399	2,0203824	down	Zdhhc2
10572077	1,7499053	down	Naf1
10576051	1,9489167	down	Foxc2
10578880	4,1425166	down	Tll1
10581538	2,5736473	up	Nqo1
10582626	2,167196	down	Abcb10
10582997	1,8235102	up	Casp4
10587315	1,7524824	up	Gsta4
10587323	1,9024745	up	Gsta1 Gsta2
10587331	1,7434449	up	Gsta1

10590909	1,8717005	down	Endod1
10592251	1,8195888	down	Pknox2
10593856	1,820235	down	C230081A13Rik
10594066	1,8258604	down	Loxl1
10594110	1,8625348	down	Neo1
10594855	2,1248088	down	Cgnl1
10598833	2,0729537	down	Chst7

Supplementary Figure 1:

Control and D5 cells were treated with increasing amounts of apoptose inducers thapsigargin (A) and menadione (B) followed by the measurement of cell viability by MTT assay. Cellular viability was decreased in both cases.

Supplementary Figure 2:

Whole transcriptome analysis of D5 and control cells identified 131 genes differentially expressed in D5 versus control cells (change fold >2).

Supplementary Figure 3:

Supernatants of control and D5 cells were collected and Ccl2 Elisa was performed. Ccl2 protein levels were significantly reduced in D5 cells compared to control cell line, confirming qRT-PCR results.

Supplementary Figure 4:

In total 1376 genes are listed to be involved in metabolic processes. Fbx110 over-expression changed transcription of 264 genes by a fold change > 1.72. 101 of these genes are found among the 1376 genes involved in metabolic processes (A). Biological pathway analysis of these 101 genes identified involvement of Fbx110 in oxidation/reduction and phosphor metabolism (B). Receptor tyrosin kinase signaling was analysed and showed no differences between D5 and control cells (C).

Supplementary Figure 5:

Functional classification of differentially expressed genes upon Fbx110 over-expression revealed regulation of 26 genes associated with `anatomical structure morphogenesis`.

Supplementary Figure 6:

SiRNA-approach against Fbx110 identified chemokines and *Xist* as targets of Fbx110 (A). ChIP analysis after knockdown of Fbx110 indicated that Fbx110 directly acts at the *Xist*, *Ccl2*, *Ccl7* and *Cxcl10* promoters by increasing H3K4me3 levels while H3K36me2 remained unchanged (B).

Supplementary Table 1:

Microarray analysis after Fbx110 over-expression revealed 131 genes differentially expressed by a fold change > 2.0. Fold change ratio is thereby presented as fold change Ctrl vs. D5.

Supplementary Table 2:

Reducing the cut off from fold change > 2.0 to a fold change >1.72 identified 133 additional target genes of Fbx110 by microarray analysis. Ctrl vs. D5 is shown as fold change ratio.

Supplementary Table 3:

Analysing microarray data set for genes involved in metabolic processes identified 101 Fbx110 target genes relevant for the metabolome.