

Supplementary Table 1. Xpd^{TTD} vs. WT at young age (3 months)

Gene	Description	Log2 Ratio	Fold Change	P value	B value
Tnfrsf6	tumor necrosis factor receptor superfamily, member 6	1.98E+00	3.94	9.19E-06	12.08
9130409J20Rik	Adult male cecum cDNA, RIKEN full-length enriched library, clone:9130409J20 proc	1.84E+00	3.58	9.19E-06	11.63
Mt2	metallothionein 2	1.60E+00	3.03	9.19E-06	11.50
Cyp2c29	cytochrome P450, family 2, subfamily c, polypeptide 29	1.12E+00	2.18	9.19E-06	11.49
Apoc2	apolipoprotein C-II	1.19E+00	2.28	1.37E-05	10.65
Fdps	farnesyl diphosphate synthetase	-9.78E-01	0.51	2.89E-05	10.23
Cyp2b13	Cytochrome P450, family 2, subfamily b, polypeptide 13 (Cyp2b13), mRNA	-2.90E+00	0.13	3.99E-05	9.71
Nsdhl	NAD(P) dependent steroid dehydrogenase-like	-9.62E-01	0.51	3.99E-05	9.61
Cyp2b9	cytochrome P450, family 2, subfamily b, polypeptide 9	-3.23E+00	0.11	5.52E-05	9.21
4933417G07Rik	Adult male testis cDNA, RIKEN full-length enriched library, clone:4933417G07 prod	8.74E-01	1.83	4.72E-05	9.17
Ctsl	cathepsin L	6.58E-01	1.58	5.52E-05	9.09
Fasn	fatty acid synthase	-7.62E-01	0.59	8.02E-05	8.52
Rps6ka3	ribosomal protein S6 kinase polypeptide 3	2.39E+00	5.26	9.14E-05	8.42
Tm7sf2	transmembrane 7 superfamily member 2	-6.74E-01	0.63	9.14E-05	8.42
Clu	clusterin	6.72E-01	1.59	9.34E-05	8.26
Acaa1	acetyl-Coenzyme A acyltransferase 1	-6.49E-01	0.64	9.55E-05	8.25
BC010711	Unknown (protein for MGC:6827)	1.02E+00	2.03	1.31E-04	7.84
D0H4S114	DNA segment, human D4S114	-8.24E-01	0.56	2.23E-04	7.33
Socs2	suppressor of cytokine signaling 2	-1.50E+00	0.35	2.23E-04	7.22
8430406I07Rik	RIKEN cDNA 8430406I07 gene	-6.94E-01	0.62	2.32E-04	7.12
Sds	serine dehydratase	6.37E-01	1.56	2.28E-04	7.11
Fkbp5	FK506 binding protein 5	5.90E-01	1.51	2.28E-04	7.07
Sqle	squalene epoxidase	-1.42E+00	0.37	2.42E-04	7.04
1810015C04Rik	RIKEN cDNA 1810015C04 gene	9.14E-01	1.88	2.78E-04	6.82
Rcor	RE1-silencing transcription factor (REST) co-repressor	-8.08E-01	0.57	2.78E-04	6.80
Hmgcs2	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 2	-5.56E-01	0.68	2.87E-04	6.76
AF032968	Strain C3H/HeN mRNA preferentially expressed in LPS-normoresponsive macroph:	-1.30E+00	0.41	2.78E-04	6.72
Arpc4	actin related protein 2/3 complex, subunit 4	1.41E+00	2.66	3.59E-04	6.43
Dhcr7	7-dehydrocholesterol reductase	-4.48E-01	0.73	4.02E-04	6.34
Ppp1r14a	protein phosphatase 1, regulatory (inhibitor) subunit 14A	6.69E-01	1.59	4.33E-04	6.23
Nnmt	nicotinamide N-methyltransferase	1.15E+00	2.22	4.55E-04	6.17
Elov15	ELOVL family member 5, elongation of long chain fatty acids (yeast)	-1.12E+00	0.46	4.55E-04	6.11
Sc5d	sterol-C5-desaturase (fungal ERG3, delta-5-desaturase) homolog (S. cerevisae)	-6.54E-01	0.64	4.55E-04	6.10
Rab9	RAB9, member RAS oncogene family	-4.51E-01	0.73	4.55E-04	6.08
Il18	interleukin 18	5.64E-01	1.48	4.57E-04	6.05
Stard4	StAR-related lipid transfer (START) domain containing 4	-5.28E-01	0.69	5.59E-04	5.83

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5730421E18Rik	RIKEN cDNA 5730421E18 gene	-5.15E-01	0.70	7.38E-04	5.53
Lgals4	lectin, galactose binding, soluble 4	-4.15E-01	0.75	7.56E-04	5.50
Tdo2	tryptophan 2,3-dioxygenase	7.38E-01	1.67	8.04E-04	5.38
2310046N15Rik	RIKEN cDNA 2310046N15 gene	8.09E-01	1.75	8.09E-04	5.37
Nsep1	nuclease sensitive element binding protein 1	1.79E+00	3.46	8.09E-04	5.36
Rpl10a	ribosomal protein L10A	4.18E-01	1.34	8.63E-04	5.27
5730438N18Rik	RIKEN cDNA 5730438N18 gene	5.61E-01	1.48	1.07E-03	5.04
C6	complement component 6	1.68E+00	3.21	1.08E-03	5.01
Lamp1	lysosomal membrane glycoprotein 1	-7.68E-01	0.59	1.08E-03	4.97
Plxna3	plexin A3	5.38E-01	1.45	1.08E-03	4.97
Cyp2b20	cytochrome P450, family 2, subfamily b, polypeptide 20	-2.28E+00	0.21	1.12E-03	4.89
C8b	complement component 8, beta subunit	6.04E-01	1.52	1.12E-03	4.87
AI595338	expressed sequence AI595338	-5.42E-01	0.69	1.12E-03	4.86
Bteb1	basic transcription element binding protein 1	7.54E-01	1.69	1.12E-03	4.85
Mug2	murinoglobulin 2	5.48E-01	1.46	1.19E-03	4.75
Trpc3	transient receptor potential cation channel, subfamily C, member 3	-4.35E-01	0.74	1.19E-03	4.74
Gfi1b	growth factor independent 1B	-1.07E+00	0.48	1.20E-03	4.73
Zfp67	zinc finger protein 67	-8.55E-01	0.55	1.20E-03	4.71
Gpt1	glutamic pyruvic transaminase 1, soluble	4.69E-01	1.38	1.20E-03	4.68
Rgs4	regulator of G-protein signaling 4	4.52E-01	1.37	1.20E-03	4.68
AU041707	expressed sequence AU041707	6.48E-01	1.57	1.31E-03	4.55
Scarb1	scavenger receptor class B, member 1	4.39E-01	1.36	1.31E-03	4.54
Kif24	kinesin family member 24	-6.33E-01	0.64	1.31E-03	4.52
H2-Q7	histocompatibility 2, Q region locus 7	-7.33E-01	0.60	1.31E-03	4.52
Fmo2	flavin containing monooxygenase 2	-4.48E-01	0.73	1.41E-03	4.42
Sprr1b	small proline-rich protein 1B	-6.18E-01	0.65	1.41E-03	4.42
C9	complement component 9	1.09E+00	2.13	1.41E-03	4.40
Got1	glutamate oxaloacetate transaminase 1, soluble	5.50E-01	1.46	1.56E-03	4.29
Asl	argininosuccinate lyase	5.18E-01	1.43	1.57E-03	4.27
Hgfac	hepatocyte growth factor activator	-4.73E-01	0.72	1.60E-03	4.23
S100a13	S100 calcium binding protein A13	5.85E-01	1.50	1.60E-03	4.22
Col4a3bp	procollagen, type IV, alpha 3 (Goodpasture antigen) binding protein	-6.36E-01	0.64	1.60E-03	4.21
1190004M21Rik	RIKEN cDNA 1190004M21 gene	-5.41E-01	0.69	1.67E-03	4.15
Zic3	zinc finger protein of the cerebellum 3	-4.30E-01	0.74	1.69E-03	4.13
2610039E05Rik	RIKEN cDNA 2610039E05 gene	4.27E-01	1.34	1.72E-03	4.09
6230414M07Rik	RIKEN cDNA 6230414M07 gene	-3.95E-01	0.76	1.77E-03	4.05
Cyp4f15	cytochrome P450, family 4, subfamily f, polypeptide 15	4.02E-01	1.32	1.77E-03	4.03

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Piga	phosphatidylinositol glycan, class A	5.45E-01	1.46	1.77E-03	4.02
4930423O20Rik	RIKEN cDNA 4930423O20 gene	-4.28E-01	0.74	1.85E-03	3.98
Mospd3	motile sperm domain containing 3	5.53E-01	1.47	1.94E-03	3.92
1300007O09Rik	RIKEN cDNA 1300007O09 gene	-3.66E-01	0.78	2.07E-03	3.84
Fabp1	fatty acid binding protein 1, liver	-5.27E-01	0.69	2.07E-03	3.81
Sth2	sulfotransferase, hydroxysteroid preferring 2	-2.81E+00	0.14	2.07E-03	3.80
Sema3a	sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphr	-2.96E-01	0.81	2.07E-03	3.80
1300007C21Rik	RIKEN cDNA 1300007C21 gene	1.03E+00	2.04	2.16E-03	3.75
2010320H07Rik	RIKEN cDNA 2010320H07 gene	-4.24E-01	0.75	2.24E-03	3.70
Il1r1	interleukin 1 receptor, type I	9.29E-01	1.90	2.24E-03	3.68
Ube2v1	Ubiquitin-conjugating enzyme E2 variant 1 (Ube2v1), mRNA	4.45E-01	1.36	2.24E-03	3.67
Ndph	Norrie disease homolog	-8.95E-01	0.54	2.24E-03	3.66
Dnahc11	dynein, axonemal, heavy chain 11	-6.57E-01	0.63	2.24E-03	3.64
Pcyt2	phosphate cytidyltransferase 2, ethanolamine	-3.94E-01	0.76	2.24E-03	3.62
D13Wsu14e	DNA segment, Chr 13, Wayne State University 14, expressed	-5.31E-01	0.69	2.24E-03	3.61
Tll	tolloid-like	-5.55E-01	0.68	2.24E-03	3.61
0610027O18Rik	RIKEN cDNA 0610027O18 gene	4.64E-01	1.38	2.24E-03	3.59
5730405M13Rik	RIKEN cDNA 5730405M13 gene	-4.05E-01	0.76	2.24E-03	3.58
Herpud1	homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like doma	1.09E+00	2.13	2.24E-03	3.58
Cstb	cystatin B	3.56E-01	1.28	2.24E-03	3.57
Il6ra	interleukin 6 receptor, alpha	6.87E-01	1.61	2.28E-03	3.55
0910001A06Rik	RIKEN cDNA 0910001A06 gene	-5.47E-01	0.68	2.28E-03	3.54
Slc38a4	solute carrier family 38, member 4	3.93E-01	1.31	2.29E-03	3.52
Ppib	peptidylprolyl isomerase B	3.33E-01	1.26	2.29E-03	3.52
Arih1	ariadne ubiquitin-conjugating enzyme E2 binding protein homolog 1 (Drosophila)	-5.67E-01	0.68	2.43E-03	3.46
Cgn	cingulin	-3.56E-01	0.78	2.47E-03	3.43
Cdk7	cyclin-dependent kinase 7 (homolog of Xenopus MO15 cdk-activating kinase)	-3.14E-01	0.80	2.47E-03	3.41
Zfp7	zinc finger protein 7	-3.81E-01	0.77	2.47E-03	3.39
2610318G18Rik	RIKEN cDNA 2610318G18 gene	5.04E-01	1.42	2.47E-03	3.38
4933433D23Rik	RIKEN cDNA 4933433D23 gene	-9.95E-01	0.50	2.47E-03	3.38
5430404L10Rik	RIKEN cDNA 5430404L10 gene	-5.12E-01	0.70	2.47E-03	3.38
Kns2	kinesin 2	-3.33E-01	0.79	2.47E-03	3.37
9030417F11Rik	Adult male colon cDNA, RIKEN full-length enriched library, clone:9030417F11 prod	-3.63E-01	0.78	2.47E-03	3.37
Klrb1a	killer cell lectin-like receptor subfamily B member 1A	-3.17E-01	0.80	2.49E-03	3.34
2310043J07Rik	RIKEN cDNA 2310043J07 gene	6.11E-01	1.53	2.52E-03	3.32
Idb2	inhibitor of DNA binding 2	-7.39E-01	0.60	2.63E-03	3.27
Arfgap3	ADP-ribosylation factor GTPase activating protein 3	-4.53E-01	0.73	2.66E-03	3.26

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Traf1	Tnf receptor-associated factor 1	4.37E-01	1.35	2.68E-03	3.24
Serpina3c	serine (or cysteine) proteinase inhibitor, clade A, member 3C	8.48E-01	1.80	2.68E-03	3.22
Fdft1	farnesyl diphosphate farnesyl transferase 1	-5.07E-01	0.70	2.86E-03	3.16
Prg2	proteoglycan 2, bone marrow	-3.60E-01	0.78	2.97E-03	3.10
Ppp2r4	protein phosphatase 2A, regulatory subunit B (PR 53)	4.72E-01	1.39	3.01E-03	3.09
Mib1	mindbomb homolog 1 (Drosophila)	-3.78E-01	0.77	3.03E-03	3.07
Apom	apolipoprotein M	3.67E-01	1.29	3.03E-03	3.07
Rps5	ribosomal protein S5	4.49E-01	1.36	3.03E-03	3.05
Hao3	hydroxyacid oxidase (glycolate oxidase) 3	-9.57E-01	0.52	3.20E-03	2.99
5330426L24Rik	RIKEN cDNA 5330426L24 gene	-5.44E-01	0.69	3.23E-03	2.99
4933421H10Rik	RIKEN cDNA 4933421H10 gene	5.11E-01	1.43	3.25E-03	2.97
4930503E24Rik	Adult male testis cDNA, RIKEN full-length enriched library, clone:4930503E24 prod	4.68E-01	1.38	3.28E-03	2.94
Cyp51	cytochrome P450, 51	-4.25E-01	0.75	3.28E-03	2.93
Epim	epimorphin	-5.65E-01	0.68	3.28E-03	2.92
2900011O08Rik	RIKEN cDNA 2900011O08 gene	8.13E-01	1.76	3.28E-03	2.92
C130005F21Rik	16 days embryo head cDNA, RIKEN full-length enriched library, clone:C130005F21	-4.94E-01	0.71	3.28E-03	2.92
9030624L02Rik	RIKEN cDNA 9030624L02 gene	-3.32E-01	0.79	3.28E-03	2.92
1500006O09Rik	RIKEN cDNA 1500006O09 gene	4.38E-01	1.35	3.41E-03	2.87
Ctsh	cathepsin H	3.85E-01	1.31	3.41E-03	2.86
Rad51ap1	RAD51 associated protein 1	-5.28E-01	0.69	3.54E-03	2.82
Tcam1	testicular cell adhesion molecule 1	6.09E-01	1.52	3.54E-03	2.79
2410116I05Rik	RIKEN cDNA 2410116I05 gene	-4.58E-01	0.73	3.58E-03	2.79
Zfp292	zinc finger protein 292	-3.85E-01	0.77	3.58E-03	2.78
Impk	inositol polyphosphate multikinase	4.84E-01	1.40	3.61E-03	2.78
H47	histocompatibility 47	3.16E-01	1.24	3.67E-03	2.72
Sh3bgrl	SH3-binding domain glutamic acid-rich protein like	-4.03E-01	0.76	3.67E-03	2.72
Abcd3	ATP-binding cassette, sub-family D (ALD), member 3	-3.21E-01	0.80	3.82E-03	2.66
Cts3	cathepsin 3	-4.87E-01	0.71	3.98E-03	2.65
Lpin1	lipin 1	1.59E+00	3.00	3.84E-03	2.64
Usp2	ubiquitin specific protease 2	6.11E-01	1.53	4.17E-03	2.58
1810009M01Rik	RIKEN cDNA 1810009M01 gene	4.42E-01	1.36	4.17E-03	2.57
Adamts1	a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1	-4.94E-01	0.71	4.14E-03	2.57
2310014H01Rik	RIKEN cDNA 2310014H01 gene	4.53E-01	1.37	4.17E-03	2.56
Fcgr2b	Fc receptor, IgG, low affinity IIb	-3.41E-01	0.79	4.36E-03	2.52
2900075G08Rik	RIKEN cDNA 2900075G08 gene	-1.02E+00	0.49	4.42E-03	2.49
2610028D06Rik	10 days embryo whole body cDNA, RIKEN full-length enriched library, clone:26100	-4.08E-01	0.75	4.42E-03	2.48
Pit1	pituitary specific transcription factor 1	-4.66E-01	0.72	4.42E-03	2.47

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Cebpb	CCAAT/enhancer binding protein (C/EBP), beta	1.04E+00	2.05	4.36E-03	2.46
2610103J23Rik	RIKEN cDNA 2610103J23 gene	4.66E-01	1.38	4.42E-03	2.46
Ulk1	Unc-51 like kinase 1 (C. elegans)	-3.47E-01	0.79	4.46E-03	2.46
9430020K01Rik	RIKEN cDNA 9430020K01 gene	-3.08E-01	0.81	4.42E-03	2.45
Fbxo32	F-box only protein 32	5.82E-01	1.50	4.46E-03	2.41
Mmp17	matrix metalloproteinase 17	-4.61E-01	0.73	4.59E-03	2.40
AI595338	expressed sequence AI595338	5.55E-01	1.47	4.59E-03	2.39
1700121N20Rik	Adult male testis cDNA, RIKEN full-length enriched library, clone:1700121N20 prod	-3.61E-01	0.78	4.65E-03	2.36
Hrg	histidine-rich glycoprotein	5.20E-01	1.43	4.61E-03	2.36
Aqp8	aquaporin 8	-7.09E-01	0.61	4.68E-03	2.35
0610012C11Rik	Adult male kidney cDNA, RIKEN full-length enriched library, clone:0610012C11 pro	4.74E-01	1.39	4.76E-03	2.34
Pdk4	pyruvate dehydrogenase kinase, isoenzyme 4	-4.29E-01	0.74	4.74E-03	2.33
2010012L10Rik	RIKEN cDNA 2010012L10 gene	-3.86E-01	0.77	4.68E-03	2.32
Cdx1	caudal type homeo box 1	7.78E-01	1.72	4.76E-03	2.30
9430059D04Rik	RIKEN cDNA 9430059D04 gene	-4.44E-01	0.73	4.74E-03	2.29
1810063P04Rik	RIKEN cDNA 1810063P04 gene	4.25E-01	1.34	4.80E-03	2.29
Fabp3	fatty acid binding protein 3, muscle and heart	-3.26E-01	0.80	4.80E-03	2.28
2610318G18Rik	RIKEN cDNA 2610318G18 gene	-4.94E-01	0.71	5.04E-03	2.23
BC014805	cDNA sequence BC014805	-6.40E-01	0.64	5.00E-03	2.22
5830445D09Rik	RIKEN cDNA 5830445D09 gene	-3.43E-01	0.79	5.14E-03	2.19
Arl6ip3	ADP-ribosylation factor-like 6 interacting protein 3	4.63E-01	1.38	5.13E-03	2.19
Smarcd2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfar	3.69E-01	1.29	5.04E-03	2.18
Gpld1	glycosylphosphatidylinositol specific phospholipase D1	4.04E-01	1.32	5.08E-03	2.17
1110033J19Rik	RIKEN cDNA 1110033J19 gene	5.57E-01	1.47	5.33E-03	2.15
Krt1-18	keratin complex 1, acidic, gene 18	4.05E-01	1.32	5.14E-03	2.13
Pla2g12a	phospholipase A2, group XIIA	4.38E-01	1.36	5.31E-03	2.13
Fxyd4	FXDY domain-containing ion transport regulator 4	-3.53E-01	0.78	5.35E-03	2.12
Cox5a	cytochrome c oxidase, subunit Va	3.43E-01	1.27	5.33E-03	2.11
5730403B10Rik	RIKEN cDNA 5730403B10 gene	5.30E-01	1.44	5.47E-03	2.09
Cpb2	carboxypeptidase B2 (plasma)	5.08E-01	1.42	5.48E-03	2.09
Tpi	triosephosphate isomerase	3.65E-01	1.29	5.48E-03	2.08
Pltp	phospholipid transfer protein	-5.05E-01	0.70	5.61E-03	2.06
Nfe2l1	nuclear factor, erythroid derived 2,-like 1	5.38E-01	1.45	5.65E-03	2.03
A730008L03Rik	RIKEN cDNA A730008L03 gene	-3.60E-01	0.78	5.65E-03	2.03
Chrng	cholinergic receptor, nicotinic, gamma polypeptide	-4.27E-01	0.74	5.75E-03	2.02
Cbfa2t1h	CBFA2T1 identified gene homolog (human)	3.49E-01	1.27	5.72E-03	2.01
Entpd1	ectonucleoside triphosphate diphosphohydrolase 1	-2.86E-01	0.82	5.72E-03	1.99

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Junb	Jun-B oncogene	7.80E-01	1.72	5.65E-03	1.99
Slc12a7	solute carrier family 12, member 7	-3.60E-01	0.78	5.87E-03	1.96
Upp2	uridine phosphorylase 2	1.08E+00	2.12	5.80E-03	1.95
X05546		-6.34E-01	0.64	6.04E-03	1.94
Itgb4bp	integrin beta 4 binding protein	5.16E-01	1.43	5.87E-03	1.93
Rps24	ribosomal protein S24	4.25E-01	1.34	6.13E-03	1.90
Psmc2	proteasome (prosome, macropain) 26S subunit, non-ATPase, 2	4.70E-01	1.39	6.17E-03	1.86
1700023F06Rik	RIKEN cDNA 1700023F06 gene	3.99E-01	1.32	6.56E-03	1.86
4930403J22Rik	RIKEN cDNA 4930403J22 gene	-3.33E-01	0.79	6.44E-03	1.80
Cul4a	cullin 4A	-4.30E-01	0.74	6.76E-03	1.77
Pgk1	Phosphoglycerate kinase 1 (Pgk1), mRNA	3.46E-01	1.27	6.82E-03	1.77
BC013672	cDNA sequence BC013672	-5.08E-01	0.70	7.59E-03	1.70
4930486A15Rik	Adult male testis cDNA, RIKEN full-length enriched library, clone:4930486A15 prod	-3.64E-01	0.78	7.59E-03	1.67
Ptpn18	protein tyrosine phosphatase, non-receptor type 18	-3.27E-01	0.80	7.59E-03	1.67
Hal	histidine ammonia lyase	3.67E-01	1.29	7.60E-03	1.64
Saa3	serum amyloid A 3	8.83E-01	1.84	7.64E-03	1.63
Cox7b	cytochrome c oxidase subunit VIIb	-3.48E-01	0.79	7.64E-03	1.61
Hrc	histidine rich calcium binding protein	-9.64E-01	0.51	7.64E-03	1.60
Atoh7	atonal homolog 7 (Drosophila)	-5.26E-01	0.69	7.64E-03	1.60
H2afz	H2A histone family, member Z	3.73E-01	1.30	7.88E-03	1.59
Onecut1	one cut domain, family member 1	-6.36E-01	0.64	7.74E-03	1.58
Cyp1a2	cytochrome P450, family 1, subfamily a, polypeptide 2	5.42E-01	1.46	7.64E-03	1.58
Dnmt3l	DNA (cytosine-5-)-methyltransferase 3-like	-2.85E-01	0.82	7.64E-03	1.57
2310042N02Rik	RIKEN cDNA 2310042N02 gene	5.53E-01	1.47	7.74E-03	1.57
Dp1	deleted in polyposis 1	-2.77E-01	0.83	7.88E-03	1.54
1700009P03Rik	RIKEN cDNA 1700009P03 gene	5.04E-01	1.42	8.11E-03	1.53
Rdh1	retinol dehydrogenase 1 (all trans)	-4.20E-01	0.75	7.88E-03	1.53
Pumag	interferon-gamma inducible gene, Puma-g	-3.63E-01	0.78	8.16E-03	1.51
4833420D23Rik	0 day neonate head cDNA, RIKEN full-length enriched library, clone:4833420D23 p	-3.20E-01	0.80	8.22E-03	1.49
Ebpl	emopamil binding protein-like	-4.25E-01	0.75	7.89E-03	1.49
2700071E21Rik	RIKEN cDNA 2700071E21 gene	-3.21E-01	0.80	8.22E-03	1.49
Prkcsh	protein kinase C substrate 80K-H	4.44E-01	1.36	8.22E-03	1.48
Hadh2	hydroxyacyl-Coenzyme A dehydrogenase type II	3.32E-01	1.26	8.22E-03	1.47
2310061B02Rik	RIKEN cDNA 2310061B02 gene	2.98E-01	1.23	8.30E-03	1.46
Galr3	galanin receptor 3	-3.53E-01	0.78	8.39E-03	1.45
Sh3bgrl	SH3-binding domain glutamic acid-rich protein like	-5.03E-01	0.71	8.22E-03	1.45
Raet1c	retinoic acid early transcript gamma	-2.52E-01	0.84	8.22E-03	1.45

Supplementary Table 1. Xpd^{TTD} vs. WT at young age (3 months)

Ass1	argininosuccinate synthetase 1	5.54E-01	1.47	8.22E-03	1.45
1600020H07Rik	RIKEN cDNA 1600020H07 gene	-6.05E-01	0.66	8.22E-03	1.44
5830415G21Rik	Adult male thymus cDNA, RIKEN full-length enriched library, clone:5830415G21 pr	-3.08E-01	0.81	8.22E-03	1.42
Sult3a1	sulfotransferase family 3A, member 1	-1.11E+00	0.46	8.46E-03	1.42
2810003K23Rik	RIKEN cDNA 2810003K23 gene	-3.51E-01	0.78	8.32E-03	1.41
Dstn	destrin	3.32E-01	1.26	8.46E-03	1.40
Cfi	complement component factor i	3.15E-01	1.24	8.46E-03	1.39
Klf13	Kruppel-like factor 13	4.35E-01	1.35	8.46E-03	1.39
Trim25	B6-derived CD11 +ve dendritic cells cDNA, RIKEN full-length enriched library, clone	-3.55E-01	0.78	8.46E-03	1.39
Prlr	prolactin receptor	-4.65E-01	0.72	8.46E-03	1.39
Ifrd2	interferon-related developmental regulator 2	2.88E-01	1.22	8.38E-03	1.39
Rps3a	ribosomal protein S3a	3.22E-01	1.25	8.39E-03	1.38
Ager	advanced glycosylation end product-specific receptor	-3.51E-01	0.78	8.46E-03	1.37
Rarres2	retinoic acid receptor responder (tazarotene induced) 2	5.14E-01	1.43	8.46E-03	1.36
Nrbp	nuclear receptor binding protein	6.81E-01	1.60	8.55E-03	1.35
Cyp7b1	cytochrome P450, family 7, subfamily b, polypeptide 1	1.50E+00	2.84	8.55E-03	1.34
Hrsp12	heat-responsive protein 12	-3.92E-01	0.76	8.46E-03	1.34
Lcat	lecithin cholesterol acyltransferase	3.55E-01	1.28	8.46E-03	1.32
2810484M10Rik	RIKEN cDNA 2810484M10 gene	2.35E-01	1.18	8.55E-03	1.31
E130003L02Rik	0 day neonate eyeball cDNA, RIKEN full-length enriched library, clone:E130003L02	-4.69E-01	0.72	9.04E-03	1.30
Vtn	vitronectin	5.14E-01	1.43	8.46E-03	1.30
Ldhd	lactate dehydrogenase D	4.02E-01	1.32	9.07E-03	1.29
Atp1a1	ATPase, Na ⁺ /K ⁺ transporting, alpha 1 polypeptide	2.90E-01	1.22	9.04E-03	1.28
Gpt1	glutamic pyruvic transaminase 1, soluble	2.39E-01	1.18	9.01E-03	1.25
Dck	deoxycytidine kinase	-2.59E-01	0.84	9.15E-03	1.25
LOC241251	Hypothetical LOC241251 (LOC241251), mRNA	-3.18E-01	0.80	9.01E-03	1.24
C4bp	complement component 4 binding protein	3.31E-01	1.26	9.04E-03	1.24
Cebpd	CCAAT/enhancer binding protein (C/EBP), delta	4.71E-01	1.39	9.15E-03	1.22
1700129C05Rik	RIKEN cDNA 1700129C05 gene	-8.69E-01	0.55	9.44E-03	1.20
Chrna4	cholinergic receptor, nicotinic, alpha polypeptide 4	-2.56E-01	0.84	9.36E-03	1.19
Ian1	immune associated nucleotide 1	3.45E-01	1.27	9.90E-03	1.17
Akr7a5	aldo-keto reductase family 7, member A5 (aflatoxin aldehyde reductase)	2.40E-01	1.18	9.36E-03	1.16
Eif5a	eukaryotic translation initiation factor 5A	3.90E-01	1.31	9.46E-03	1.15
4921503C21Rik	RIKEN cDNA 4921503C21 gene	-2.61E-01	0.83	9.46E-03	1.15
Zfp60	zinc finger protein 60	-3.07E-01	0.81	9.58E-03	1.14
Abcg5	ATP-binding cassette, sub-family G (WHITE), member 5	4.76E-01	1.39	9.73E-03	1.13
Hint1	histidine triad nucleotide binding protein 1	3.84E-01	1.31	9.74E-03	1.13

Supplementary Table 1. Xpd^{TTD} vs. WT at young age (3 months)

Senp2	SUMO/sentrin specific protease 2	3.39E-01	1.27	1.00E-02	1.13
4933401J01Rik	Adult male testis cDNA, RIKEN full-length enriched library, clone:4933401J01 prod	-4.50E-01	0.73	9.93E-03	1.12
2210411K11Rik	RIKEN cDNA 2210411K11 gene	5.06E-01	1.42	9.93E-03	1.12
9030624J02Rik	RIKEN cDNA 9030624J02 gene	-2.89E-01	0.82	1.01E-02	1.11
Dsip1	delta sleep inducing peptide, immunoreactor	9.53E-01	1.94	9.95E-03	1.09
Klra17	killer cell lectin-like receptor, subfamily A, member 17	-2.64E-01	0.83	9.90E-03	1.09
Gkn1	gastrokine 1	-6.42E-01	0.64	1.01E-02	1.07
Rpl36al	ribosomal protein L36a-like	3.83E-01	1.30	1.01E-02	1.07
Psmb4	proteasome (prosome, macropain) subunit, beta type 4	3.25E-01	1.25	1.02E-02	1.07
Snap91	synaptosomal-associated protein 91	5.27E-01	1.44	1.01E-02	1.04
Mpp5	membrane protein, palmitoylated 5 (MAGUK p55 subfamily member 5)	2.58E-01	1.20	1.05E-02	1.02
2310061N23Rik	RIKEN cDNA 2310061N23 gene	-3.52E-01	0.78	1.08E-02	1.01
2010110O04Rik	RIKEN cDNA 2010110O04 gene	-3.01E-01	0.81	1.08E-02	1.01
Bcat1	branched chain aminotransferase 1, cytosolic	-4.52E-01	0.73	1.05E-02	1.00
Hk2	hexokinase 2	-7.97E-01	0.58	1.08E-02	1.00
1810023F06Rik	RIKEN cDNA 1810023F06 gene	-4.26E-01	0.74	1.07E-02	0.99
4930579P08Rik	Adult male testis cDNA, RIKEN full-length enriched library, clone:4930579P08 prod	-6.69E-01	0.63	1.08E-02	0.99
Rpl13	ribosomal protein L13	2.97E-01	1.23	1.08E-02	0.99
BC002216	cDNA sequence BC002216	-3.29E-01	0.80	1.08E-02	0.99
Arpc3	actin related protein 2/3 complex, subunit 3	4.57E-01	1.37	1.08E-02	0.98
Ctsg	cathepsin G	-3.08E-01	0.81	1.08E-02	0.97
Six4	sine oculis-related homeobox 4 homolog (Drosophila)	-3.90E-01	0.76	1.08E-02	0.95
Fxyd1	FXDY domain-containing ion transport regulator 1	-2.53E-01	0.84	1.08E-02	0.95
Trfr2	transferrin receptor 2	3.82E-01	1.30	1.07E-02	0.95
Lrg1	leucine-rich alpha-2-glycoprotein 1	1.03E+00	2.04	1.08E-02	0.94
Tsnax	translin-associated factor X	-3.59E-01	0.78	1.11E-02	0.94
2210411G17Rik	RIKEN cDNA 2210411G17 gene	3.21E-01	1.25	1.08E-02	0.94
Bscl2	Bernardinelli-Seip congenital lipodystrophy 2 homolog (human)	4.44E-01	1.36	1.08E-02	0.92
ApoE	apolipoprotein E	4.31E-01	1.35	1.08E-02	0.91
Map3k12	mitogen activated protein kinase kinase kinase 12	-3.94E-01	0.76	1.11E-02	0.90
Aacs	acetoacetyl-CoA synthetase	-4.68E-01	0.72	1.08E-02	0.89
Mrpl1	mitochondrial ribosomal protein L1	-3.48E-01	0.79	1.16E-02	0.88
1700028P05Rik	RIKEN cDNA 1700028P05 gene	-3.08E-01	0.81	1.13E-02	0.88
Zhx3	zinc fingers and homeoboxes 3	-2.85E-01	0.82	1.13E-02	0.87
Vegfa	vascular endothelial growth factor A	-4.12E-01	0.75	1.15E-02	0.87
1810036I24Rik	RIKEN cDNA 1810036I24 gene	-3.77E-01	0.77	1.13E-02	0.87
BC026682	cDNA sequence BC026682	-6.78E-01	0.62	1.13E-02	0.86

Supplementary Table 1. Xpd^{TTD} vs. WT at young age (3 months)

Siat6	sialyltransferase 6 (N-acetylglucosaminidase alpha 2,3-sialyltransferase)	3.64E-01	1.29	1.13E-02	0.85
9430020E02Rik	RIKEN cDNA 9430020E02 gene	-2.69E-01	0.83	1.13E-02	0.85
Clk4	CDC like kinase 4	-3.63E-01	0.78	1.14E-02	0.85
Tfpi2	tissue factor pathway inhibitor 2	-4.65E-01	0.72	1.13E-02	0.83
Cct8	chaperonin subunit 8 (theta)	2.31E-01	1.17	1.16E-02	0.82
2510017J16Rik	RIKEN cDNA 2510017J16 gene	-2.68E-01	0.83	1.19E-02	0.82
Hpd	4-hydroxyphenylpyruvic acid dioxygenase	3.67E-01	1.29	1.14E-02	0.80
C730032N17Rik	RIKEN cDNA C730032N17 gene	-3.22E-01	0.80	1.19E-02	0.79
Igf2	insulin-like growth factor 2	-2.98E-01	0.81	1.19E-02	0.78
9530046H09Rik	RIKEN cDNA 9530046H09 gene	2.49E-01	1.19	1.19E-02	0.78
2310010M20Rik	RIKEN cDNA 2310010M20 gene	-4.63E-01	0.73	1.19E-02	0.77
Surb7	SRB7 (suppressor of RNA polymerase B) homolog (S. cerevisiae)	-3.59E-01	0.78	1.19E-02	0.76
Emid1	EMI domain containing 1	2.28E-01	1.17	1.19E-02	0.75
Zfp235	zinc finger protein 235	4.35E-01	1.35	1.19E-02	0.74
Cx3cl1	chemokine (C-X3-C motif) ligand 1	-2.77E-01	0.83	1.27E-02	0.73
Banp	Btg3 associated nuclear protein	-4.30E-01	0.74	1.19E-02	0.73
DXImx38e	DNA segment, Chr X, Immunex 38, expressed	2.57E-01	1.20	1.25E-02	0.73
Ltbp2	latent transforming growth factor beta binding protein 2	-2.85E-01	0.82	1.27E-02	0.72
Serpina3n	serine (or cysteine) proteinase inhibitor, clade A, member 3N	5.29E-01	1.44	1.24E-02	0.70
2610036L13Rik	RIKEN cDNA 2610036L13 gene	-2.82E-01	0.82	1.26E-02	0.70
6030458C11Rik	RIKEN cDNA 6030458C11 gene	-2.38E-01	0.85	1.27E-02	0.70
1200016C12Rik	RIKEN cDNA 1200016C12 gene	-3.51E-01	0.78	1.32E-02	0.70
Capns1	calpain, small subunit 1	3.18E-01	1.25	1.28E-02	0.67
D19Etd721e	DNA segment, Chr 19, ERATO Doi 721, expressed	-4.33E-01	0.74	1.27E-02	0.67
Serpina3k	serine (or cysteine) proteinase inhibitor, clade A, member 3K	2.89E-01	1.22	1.32E-02	0.66
Fgf9	fibroblast growth factor 9	-3.41E-01	0.79	1.30E-02	0.66
Osbp2	oxysterol binding protein 2	-3.31E-01	0.79	1.32E-02	0.64
4933407C03Rik	RIKEN cDNA 4933407C03 gene	-3.06E-01	0.81	1.28E-02	0.63
Cldn2	claudin 2	-3.99E-01	0.76	1.32E-02	0.62
Dpm1	dolichol-phosphate (beta-D) mannosyltransferase 1	-2.45E-01	0.84	1.28E-02	0.62
1810004F21Rik	RIKEN cDNA 1810004F21 gene	4.50E-01	1.37	1.32E-02	0.60
Ube2j2	ubiquitin-conjugating enzyme E2, J2 homolog (yeast)	-2.94E-01	0.82	1.32E-02	0.59
Aldh3a2	aldehyde dehydrogenase family 3, subfamily A2	-3.13E-01	0.80	1.32E-02	0.59
Ugt2a1	UDP glycosyltransferase 2 family, polypeptide A1	-3.60E-01	0.78	1.41E-02	0.57
0610009I22Rik	RIKEN cDNA 0610009I22 gene	-4.11E-01	0.75	1.39E-02	0.57
9030416H16Rik	RIKEN cDNA 9030416H16 gene	3.17E-01	1.25	1.38E-02	0.56
1810033B17Rik	RIKEN cDNA 1810033B17 gene	8.98E-01	1.86	1.39E-02	0.54

Supplementary Table 1. Xpd^{TTD} vs. WT at young age (3 months)

Tde1	tumor differentially expressed 1	4.87E-01	1.40	1.37E-02	0.54
0610008C08Rik	RIKEN cDNA 0610008C08 gene	6.58E-01	1.58	1.37E-02	0.54
3230401D17Rik	RIKEN cDNA 3230401D17 gene	-2.73E-01	0.83	1.39E-02	0.53
Pkd1l2	polycystic kidney disease 1 like 2	-3.80E-01	0.77	1.37E-02	0.52
Rad54l	RAD54 like (<i>S. cerevisiae</i>)	-3.29E-01	0.80	1.37E-02	0.52
Kdelr2	KDEL (Lys-Asp-Glu-Leu) endoplasmic reticulum protein retention receptor 2	-2.42E-01	0.85	1.39E-02	0.51
Vmp	vesicular membrain protein p24	3.40E-01	1.27	1.41E-02	0.51
Mapk1	mitogen activated protein kinase 1	-3.03E-01	0.81	1.44E-02	0.51
Clp1	cardiac lineage protein 1	2.64E-01	1.20	1.42E-02	0.49
F2	coagulation factor II	2.80E-01	1.21	1.44E-02	0.49
Zw10	ZW10 homolog (<i>Drosophila</i>), centromere/kinetochore protein	5.74E-01	1.49	1.41E-02	0.49
Pabpc1	poly A binding protein, cytoplasmic 1	2.19E-01	1.16	1.42E-02	0.48
Abcd2	ATP-binding cassette, sub-family D (ALD), member 2	-2.19E-01	0.86	1.42E-02	0.47
BC005537	cDNA sequence BC005537	-3.09E-01	0.81	1.40E-02	0.46
BC062922	cDNA sequence BC062922	4.43E-01	1.36	1.58E-02	0.44
Pxmp4	peroxisomal membrane protein 4	-3.87E-01	0.76	1.45E-02	0.43
2610301K12Rik	RIKEN cDNA 2610301K12 gene	-2.91E-01	0.82	1.49E-02	0.43
Acacb	acetyl-Coenzyme A carboxylase beta	-2.74E-01	0.83	1.54E-02	0.43
4931405B09Rik	RIKEN cDNA 4931405B09 gene	4.76E-01	1.39	1.43E-02	0.43
4933411G06Rik	RIKEN cDNA 4933411G06 gene	-4.41E-01	0.74	1.53E-02	0.41
Prdm1	PR domain containing 1, with ZNF domain	-3.73E-01	0.77	1.55E-02	0.40
4933424M23Rik	RIKEN cDNA 4933424M23 gene	-3.33E-01	0.79	1.58E-02	0.38
4921537D05Rik	RIKEN cDNA 4921537D05 gene	-2.14E-01	0.86	1.53E-02	0.37
2210013O21Rik	Adult male stomach cDNA, RIKEN full-length enriched library, clone:2210013O21 p	-2.77E-01	0.83	1.51E-02	0.37
F10	coagulation factor X	3.19E-01	1.25	1.55E-02	0.36
D15Ert417e	DNA segment, Chr 15, ERATO Doi 417, expressed	-2.74E-01	0.83	1.59E-02	0.36
Cnfn	CDNA clone MGC:70195 IMAGE:30293557, complete cds	-3.05E-01	0.81	1.55E-02	0.35
Glg1	golgi apparatus protein 1	4.27E-01	1.34	1.58E-02	0.35
Mga	MAX gene associated	3.07E-01	1.24	1.61E-02	0.34
Tcf7l2	transcription factor 7-like 2, T-cell specific, HMG-box	-3.41E-01	0.79	1.60E-02	0.32
Fuca	fucosidase, alpha-L- 1, tissue	3.05E-01	1.24	1.55E-02	0.31
B930089N03Rik	10 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:B9300	-3.93E-01	0.76	1.63E-02	0.31
Mbnl1	muscleblind-like 1 (<i>Drosophila</i>)	-3.98E-01	0.76	1.55E-02	0.31
5830417I10Rik	RIKEN cDNA 5830417I10 gene	4.26E-01	1.34	1.61E-02	0.29
Scrn2	secernin 2	6.94E-01	1.62	1.70E-02	0.29
Snn	stannin	-2.97E-01	0.81	1.59E-02	0.28
Ltbr	lymphotoxin B receptor	3.56E-01	1.28	1.66E-02	0.28

Supplementary Table 1. Xpd^{TTD} vs. WT at young age (3 months)

Rpl18	ribosomal protein L18	2.89E-01	1.22	1.67E-02	0.27
A230102O21Rik	Adult male hypothalamus cDNA, RIKEN full-length enriched library, clone:A230102O21	-2.23E-01	0.86	1.62E-02	0.26
Cdh23	cadherin 23 (otocadherin)	-2.38E-01	0.85	1.63E-02	0.24
Cd2	CD2 antigen	-2.27E-01	0.85	1.63E-02	0.24
Wbp2	WW domain binding protein 2	2.53E-01	1.19	1.70E-02	0.22
4930524O08Rik	Adult male testis cDNA, RIKEN full-length enriched library, clone:4930524O08 prod	-2.80E-01	0.82	1.65E-02	0.20
Art1	ADP-ribosyltransferase 1	-4.01E-01	0.76	1.79E-02	0.19
1700016D06Rik	RIKEN cDNA 1700016D06 gene	-4.24E-01	0.75	1.72E-02	0.17
D530031A16Rik	13 days embryo stomach cDNA, RIKEN full-length enriched library, clone:D530031A16	-3.22E-01	0.80	1.79E-02	0.17
2610019I03Rik	RIKEN cDNA 2610019I03 gene	-2.61E-01	0.83	1.84E-02	0.16
Tnip1	TNFAIP3 interacting protein 1	-2.74E-01	0.83	1.79E-02	0.16
C130090K23Rik	RIKEN cDNA C130090K23 gene	-2.11E-01	0.86	1.72E-02	0.16
2610016F04Rik	RIKEN cDNA 2610016F04 gene	-4.37E-01	0.74	1.79E-02	0.15
Tgfb1	transforming growth factor, beta 1	-3.21E-01	0.80	1.81E-02	0.14
4933404I11Rik	Adult male testis cDNA, RIKEN full-length enriched library, clone:4933404I11 produ	-3.61E-01	0.78	1.84E-02	0.14
Ocil	osteoclast inhibitory lectin	-5.63E-01	0.68	1.84E-02	0.14
6430605C03Rik	RIKEN cDNA 6430605C03 gene (6430605C03Rik), mRNA	-3.52E-01	0.78	1.79E-02	0.13
2810055E05Rik	RIKEN cDNA 2810055E05 gene	-3.14E-01	0.80	1.79E-02	0.12
Rps3	ribosomal protein S3	3.50E-01	1.27	1.79E-02	0.11
Tmprss5	transmembrane protease, serine 5 (spinesin)	5.13E-01	1.43	1.83E-02	0.11
5730407K14Rik	RIKEN cDNA 5730407K14 gene	5.69E-01	1.48	1.83E-02	0.10
Tcf20	transcription factor 20	-4.08E-01	0.75	1.89E-02	0.10
D5Ert363e	DNA segment, Chr 5, ERATO Doi 363, expressed	-2.61E-01	0.83	1.84E-02	0.10
6330414G02Rik	Adult male medulla oblongata cDNA, RIKEN full-length enriched library, clone:6330414G02	-2.76E-01	0.83	1.83E-02	0.09
Ehox	ES cell derived homeobox containing gene	-3.42E-01	0.79	1.89E-02	0.09
Crk	v-crk sarcoma virus CT10 oncogene homolog (avian)	-2.79E-01	0.82	1.87E-02	0.07
Agl	amylo-1,6-glucosidase, 4-alpha-glucanotransferase	3.76E-01	1.30	1.84E-02	0.07
Eprs	glutamyl-prolyl-tRNA synthetase	2.70E-01	1.21	1.86E-02	0.06
Itih1	inter-alpha trypsin inhibitor, heavy chain 1	3.56E-01	1.28	1.88E-02	0.05
4930578I06Rik	RIKEN cDNA 4930578I06 gene	-3.74E-01	0.77	1.88E-02	0.05
2810428J06Rik	RIKEN cDNA 2810428J06 gene	-3.03E-01	0.81	1.87E-02	0.04
Pcbd	6-pyruvoyl-tetrahydropterin synthase/dimerization cofactor of hepatocyte nuclear fac	-2.51E-01	0.84	1.85E-02	0.04
Mapk8ip3	mitogen-activated protein kinase 8 interacting protein 3	-2.45E-01	0.84	1.93E-02	0.04
1700030K09Rik	RIKEN cDNA 1700030K09 gene	-2.58E-01	0.84	1.94E-02	0.04
Sirt6	sirtuin 6 (silent mating type information regulation 2, homolog) 6 (S. cerevisiae)	-2.54E-01	0.84	1.89E-02	0.03
Cp	ceruloplasmin	3.07E-01	1.24	1.92E-02	0.03
3110005P07Rik	RIKEN cDNA 3110005P07 gene	-2.50E-01	0.84	1.87E-02	0.03

Supplementary Table 1. Xpd^{TTD} vs. WT at young age (3 months)

2310026P19Rik	RIKEN cDNA 2310026P19 gene	4.02E-01	1.32	1.92E-02	0.03
Rorc	RAR-related orphan receptor gamma	-2.22E-01	0.86	1.92E-02	0.03
1200016G03Rik	RIKEN cDNA 1200016G03 gene	-2.30E-01	0.85	1.88E-02	0.03
1110067L22Rik	RIKEN cDNA 1110067L22 gene	-3.03E-01	0.81	1.94E-02	0.02
Mrps35	mitochondrial ribosomal protein S35	2.72E-01	1.21	1.88E-02	0.02
1700036D21Rik	RIKEN cDNA 1700036D21 gene	-3.14E-01	0.80	1.92E-02	0.02
4632407F12Rik	RIKEN cDNA 4632407F12 gene	-2.80E-01	0.82	1.93E-02	0.01
1700010A17Rik	RIKEN cDNA 1700010A17 gene	4.32E-01	1.35	1.92E-02	0.00