

**Table S1. Embryos and Placentae Weights**

Control weights (grams)					DXR weights (grams)				
		Embryo	Placenta	EPI			Embryo	Placenta	EPI
<b>Mother 1</b>	1	1.46	0.0864	16.8981	<b>Mother 1</b>	1	1.38	0.1165	11.85
	2	1.47	0.0964	15.2490		2	1.35	0.085	15.88
	3	1.49	0.1104	13.4964		3	1.28	0.1139	11.24
	4	1.54	0.1	15.4000		4	1.4	0.1097	12.76
	5	1.58	0.1038	15.2216		5	1.19	0.0916	12.99
	6	1.59	0.094	16.9149		6	1.26	0.0928	13.58
	7	1.34	0.0786	17.0483		7	1.29	0.1045	12.34
	8	1.28	0.0806	15.8809		8	1.31	0.0976	13.42
	9	1.47	0.0984	14.9390		9	1.18	0.0932	12.66
	10	1.51	0.097	15.5670		10	1.23	0.1125	10.93
	11	1.54	0.1031	14.9370		11	1.29	0.0721	17.89
	12	1.43	0.0955	14.9738		12	1.16	0.1085	10.69
		13	1.42	0.0993		14.3001			
					<b>Mother 2</b>	1	1.18	0.096	12.29
<b>Mother 2</b>	1	1.2581	0.0821	15.324		2	1.27	0.0838	15.16
	2	1.32	0.0936	14.1229		3	1.2	0.0962	12.47
	3	1.31	0.085	15.3647		4	1.16	0.0835	13.89
	4	1.36	0.0978	13.8855		5	1.18	0.0756	15.61
	5	1.22	0.0723	16.8783		6	1.19	0.0987	12.06
	6	1.33	0.0914	14.5810		7	1.23	0.0877	14.03
	7	1.33	0.1067	12.4555		8	1.3	0.0974	13.35
	8	1.34	0.089	15.0449		9	1.24	0.092	13.48
	9	1.22	0.0798	15.3321		10	1.28	0.08	16.00

	10	1.31	0.0974	13.4887		11	1.21	0.0779	15.53	
	11	1.36	0.0987	13.7923		12	1.17	0.1123	10.42	
	12	1.38	0.0742	18.6388						
	13	1.28	0.1035	12.4145		<b>Mother 3</b>	1	1.5803	0.1173	13.47
	14	1.32	0.1082	12.2440			2	1.2839	0.0968	13.26
				3	1.5382		0.108	14.24		
<b>Mother 3</b>	1	1.17	0.1228	9.5195	4		1.5047	0.1043	14.43	
	2	1.36	0.1108	12.2292	5		1.524	0.1225	12.44	
	3	1.40	0.106	13.1849	6	1.4794	0.095	15.57		
	4	1.41	0.0915	15.4568						
	5	1.32	0.1082	12.1738	<b>Mother 4</b>	1	0.9003	0.081	11.11	
6	1.26	0.0967	13.0362	2		0.9938	0.1126	8.83		
7	1.30	0.1186	10.9941	3		0.8571	0.108	7.94		
8	1.3667	0.1108	12.33484	4		0.7787	0.0718	10.85		
				5		0.9911	0.0909	10.90		
<b>Mother 4</b>	1	1.09	0.0891	12.2492	6	1.1009	0.0881	12.50		
	2	1.18	0.0955	12.4042	7	0.9081	0.0944	9.62		
	3	1.06	0.081	13.0370	8	0.8868	0.1054	8.41		
	4	1.18	0.1041	11.3112	9	0.9781	0.1046	9.35		
	5	1.09	0.0918	11.8464	10	1.0122	0.131	7.73		
<b>Mother 4</b>	6	1.24	0.0908	13.6696	<b>Mother 5</b>	1	1.0154	0.0741	13.70	
	7	1.09	0.0893	12.1881		2	1.024	0.0978	10.47	
	8	1.08	0.0957	11.3271		3	0.967	0.0855	11.31	
	9	1.07	0.0965	11.1337		4	0.0883	0.1011	0.87	
	10	1.14	0.0932	12.2146		5	0.9976	0.0841	11.86	
11	1.14	0.0902	12.6086							

	12	1.15	0.0813	14.0898		6	1.0278	0.0906	11.34
	13	0.94	0.0714	13.1989		7	0.852	0.0849	10.04
	14	1.16	0.099	11.7576		8	0.9738	0.0742	13.12
	15	1.19	0.0961	12.3725		9	1.0779	0.0713	15.12
	16	1.21	0.1212	9.9670					
<b>Mother 5</b>	1	1.1576	0.0765	15.13203					
	2	1.1544	0.0822	14.0438					
	3	1.0743	0.096	11.19063					
	4	1.0262	0.0882	11.63492					
	5	1.1332	0.1006	11.26441					
	6	1.1702	0.0893	13.10414					
	7	1.1175	0.106	10.54245					
	8	1.1937	0.0896	13.32254					
	9	1.1937	0.0947	12.60507					
	10	1.0739	0.1072	10.01772					

**Table S2. Proteins exhibiting significant change in their expression upon exposure to DXR**

Protein ID	Protein Names	Gene Name	Ratio of protein expression in DXR treated placenta vs. Control placenta	P Value
G5E893		Ankrd12	1.324771217	0
P35285;A2ARZ7	Ras-related protein Rab-22A	Rab22a	1.103485874	0
P28666	Murinoglobulin-2	Mug2	1.079858738	0
Q9EQI5		Ppbp	1.079301188	0
Q61646	Haptoglobin;Haptoglobin alpha chain;Haptoglobin beta chain	Hp	1.066084752	0
A0A1W2P8C6;P41731	CD63 antigen	Cd63	1.064040441	0
P18406	Protein CYR61	Cyr61	1.055193051	1.54E-12
Q80ZS9;Q08535;A0A1B0GS37	Secretin	Sct	1.046771605	4.54E-09
P52430;H3BK03;H3BLB8	Serum paraoxonase/arylesterase 1	Pon1	1.046478354	5.79E-09
E9Q6C2;Q8CG14	Complement C1s-A subcomponent;Complement C1s-A subcomponent heavy chain;Complement C1s-A subcomponent light chain	C1s1;C1sa	1.046150139	7.30E-09
Q62313;Q62314	Trans-Golgi network integral membrane protein 1;Trans-Golgi network integral membrane protein 2	Tgoln1;Tgoln2	1.04510771	1.81E-08
Q60590;P07361	Alpha-1-acid glycoprotein 1	Orm1	1.044140673	4.14E-08
A0A0A6YYE7;A0A0B4J1I9;A0A0B4J1I4;A0A0B4J1I3;A0A0A6YYE5;A0A075B5M4;A0A075B5L8		Igkv4-57-1;Igkv4-79	1.044012524	4.53E-08
Q921H9	Cytochrome c oxidase assembly factor 7	Coa7	1.043920998	4.81E-08

A0A0R4J182;Q9JL96;A0A286YE81;A0A286YCC4	Cathepsin M	Ctsm	1.043513648	6.70E-08
D3Z4L9;Q61333	Tumor necrosis factor alpha-induced protein 2	Tnfaip2	1.041257583	4.19E-07
E0CYQ4;E0CX64;H3BK26;P49442	Inositol polyphosphate 1-phosphatase	Inpp1	1.038369088	3.28E-06
Q91Y97	Fructose-bisphosphate aldolase B	Aldob	1.037879259	4.56E-06
A0A075B5P5;A0A1Y7VJN6;P03987	Ig gamma-3 chain C region	Ighg3	1.03783164	4.67E-06
Q3UDS7;A0A1L1SSF2;Q8VDL4	ADP-dependent glucokinase	Adpgk	1.03752025	5.82E-06
P56380	Bis(5-nucleosyl)-tetrphosphatase [asymmetrical]	Nudt2	1.037408954	6.16E-06
A0A075B5P3;A0A0A6YVP0		Ighg2b	1.037127328	7.40E-06
P13366;Q920S1	Granzyme G	Gzmg	1.036033943	1.53E-05
A0A0R4J0G0;Q8BH04;Q9Z2V4	Phosphoenolpyruvate carboxykinase [GTP], mitochondrial;Phosphoenolpyruvate carboxykinase, cytosolic [GTP]	Pck2;Pck1	1.034708415	3.82E-05
P21300	Aldose reductase-related protein 1	Akr1b7	1.034606934	4.05E-05
Q91VK1;A0A1Y7VM24;A0A1Y7VM47;A0A1Y7VIU9;A0A1Y7VKZ4;A0A1Y7VJ43	Basic leucine zipper and W2 domain-containing protein 2	Bzw2	1.034355438	4.69E-05
F8VQ42;E0CZ72;P28740	Kinesin-like protein KIF2A	Kif2a	1.034349308	4.69E-05
A0A0R4J1V1;Q75N73;D3Z6P5;D3Z354;D3YXD7	Zinc transporter ZIP14	Slc39a14	1.034109612	5.35E-05
Q80XD8	Proline-rich acidic protein 1	Prap1	1.033760948	6.53E-05
Q6P5D8	Structural maintenance of chromosomes flexible hinge domain-containing protein 1	Smchd1	1.033568202	7.29E-05
Q91XL1		Lrg1	1.033502974	7.47E-05
Q8WUR0;J3QPY0;A0A0U1RNT4	Protein C19orf12 homolog	1600014C10Rik	1.033291254	8.31E-05
A0A087WRL8;B8JK81;Q3TP05;B8JK87;Q8K371	Angiotenin-like protein 2	Amotl2	1.03206227	0.000182951
Q9CR95	Adaptin ear-binding coat-associated protein 1	Necap1	1.031886454	0.000203346
Q9Z0G0	PDZ domain-containing protein GIPC1	Gipc1	1.031777137	0.000214386

Q8R3H7	Heparan sulfate 2-O-sulfotransferase 1	Hs2st1	1.031323779	0.000277215
P70274;E0CZC5;E0CZ76;E0CX80	Selenoprotein P	Sepp1	1.031071883	0.000317481
O70238		Rhox6	1.030939557	0.000339585
Q9QZ25	Vascular non-inflammatory molecule 3	Vnn3	1.030512429	0.000430303
Q8BGS2	Bola-like protein 2	Bola2	1.030092444	0.000533251
Q8CIG8;A0A0R4J049;F6QQQ6	Protein arginine N-methyltransferase 5	Prmt5	1.029727139	0.000638401
Q9DBB9	Carboxypeptidase N subunit 2	Cpn2	1.029462851	0.000739422
Q8VDP3;E9PUI4	Protein-methionine sulfoxide oxidase MICAL1	Mical1	1.029407866	0.000759045
P08884	Granzyme E	Gzme	1.028857195	0.001007017
E9PUW7;Q9EPK7	Exportin-7	Xpo7	1.028602264	0.001148492
O89016;A0A1Y7VMF7	ATP-binding cassette sub-family D member 4	Abcd4	1.027986204	0.001617278
A0A1W2P766			1.027153391	0.002543768
E9Q3G8;A0A286YCP2		Nup153	1.026752483	0.00312882
F6XCT0		Macf1	1.026442435	0.003650235
E9Q5W5;A0A140LJ04;Q5SSH7	Zinc finger ZZ-type and EF-hand domain-containing protein 1	Zzef1	1.026139273	0.004210954
S4R2D5;A0A0A0MQN4;Q9D906;S4R2T5;S4R2P7;S4R1T0;S4R1K1;S4R1U3;S4R1W9;S4R1N8	Ubiquitin-like modifier-activating enzyme ATG7	Atg7	1.025959811	0.004618129
Q8BZA9;A0A0J9YV11	Fructose-2,6-bisphosphatase TIGAR	Tigar	1.025796999	0.004956989
P62046	Leucine-rich repeat and calponin homology domain-containing protein 1	Lrch1	1.025357888	0.006066764
Q3U816;Q9Z2G9	Oxidoreductase HTATIP2	Htatip2	1.025298291	0.006192569
Q9QXE7;A0A0J9YV90;Q8BHJ5	F-box-like/WD repeat-containing protein TBL1X;F-box-like/WD repeat-containing protein TBL1XR1	Tbl1x;Tbl1xr1	1.024972287	0.007282122
A2A7H1;Z4YN00;Q9QZN4;A2A7G9;A2A7H3	F-box only protein 6	Fbxo6	1.02492174	0.0073559
O70591;F8WJ30	Prefoldin subunit 2	Pfdn2	1.024867631	0.007446067
Q8BUU7;Q68FH4	N-acetylgalactosamine kinase	Galk2	1.024821782	0.007586956

F6RK81;F6UIS1;Q9CQE7	Endoplasmic reticulum-Golgi intermediate compartment protein 3	Ergic3	1.024739763	0.007814898
E9Q589;A0A0A6YY47;A0A0A6YY91;P13595;A0A0A6YWU2;E9QB01	Neural cell adhesion molecule 1	Ncam1	1.024463811	0.008736197
P02104	Hemoglobin subunit epsilon-Y2	Hbb-y	1.024461596	0.008736197
Q9D1C8	Vacuolar protein sorting-associated protein 28 homolog	Vps28	1.024337442	0.009249222
Q5PPR2;Q6P1Y9;Q8R3S6	Exocyst complex component 1	Exoc1	1.02411355	0.010094112
A0A075B5P4;A0A0A6YWR2;P01868;P01869	Ig gamma-1 chain C region secreted form;Ig gamma-1 chain C region, membrane-bound form	Ighg1	1.02397264	0.010795927
A0A0U1RPI8;Q9BCZ4;A0A0U1RP62	Selenoprotein S	Vimp	1.023857256	0.011338285
Q3TDD9	Protein phosphatase 1 regulatory subunit 21	Ppp1r21	1.023789984	0.011619209
P61294;A0A1L1SRS6	Ras-related protein Rab-6B	Rab6b	1.023528353	0.013197352
G3UZG8;G3UX07;G3UZH2;G3UY43;G3UX63	DNA (cytosine-5)-methyltransferase 3A	Dnmt3a	1.023441494	0.013719669
Q80YX1;Q80YX0	Tenascin	Tnc	1.023336749	0.014253321
Q64726	Zinc-alpha-2-glycoprotein	Azgp1	1.023197888	0.015061134
Q3TBA3;P21958;F6QHF1	Antigen peptide transporter 1	Tap1	1.023152943	0.015329742
Q3TCH7;E9PXT5;F6UV36	Cullin-4A	Cul4a	1.023095548	0.01561724
P28665	Murinoglobulin-1	Mug1	1.02294254	0.016402317
G3UZM9;Q8BWW9;G3UXH4;G3UYD6	Serine/threonine-protein kinase N2	Pkn2	1.022708829	0.017913915
Q3U0B3	Dehydrogenase/reductase SDR family member 11	Dhrs11	1.02249921	0.019280871
P16332	Methylmalonyl-CoA mutase, mitochondrial	Mut	1.022495967	0.019280871
Q9R0H0;A2A848	Peroxisomal acyl-coenzyme A oxidase 1	Acox1	1.022373286	0.020372717
Q3U5Q7	UMP-CMP kinase 2, mitochondrial	Cmpk2	1.021933582	0.024014269
O54831	Prolactin-7A2	Prl7a2	1.021900979	0.024114221
E9Q3M0;Q62432;E9Q5P9;E9PXA8;A2CG44;Q8BUN5;Q9JIW5;A2CG45;F7BUP2;Q8C3Y6;P97454;P70340	Mothers against decapentaplegic homolog 2;Mothers against decapentaplegic homolog 3;Mothers against decapentaplegic homolog 9	Smad2;Smad3;Smad9	1.021807198	0.025009363

Q19LI2	Alpha-1B-glycoprotein	A1bg	1.021693655	0.026280084
Q8BVU5;A2AH28;A2AH27	ADP-ribose pyrophosphatase, mitochondrial	Nudt9	1.021534843	0.028196265
B2RSU6;Q6AW69;D3Z3H4	Cingulin-like protein 1	Cgnl1	1.021507425	0.028220274
Q9R112;F6ZKZ3;H3BLH2	Sulfide:quinone oxidoreductase, mitochondrial	Sqrdl	1.0213283	0.030104788
E9Q6J4		Ceacam3	1.021244144	0.030948791
P62309	Small nuclear ribonucleoprotein G	Snrpg	1.021137689	0.032264266
P09813	Apolipoprotein A-II;Proapolipoprotein A-II	Apoa2	1.021063994	0.033251956
E9QNR6;Q8VD62	UPF0696 protein C11orf68 homolog	s03	1.020823755	0.036971208
Q3UGS4	Protein FAM195B	Fam195b	1.020750419	0.038082138
Q91XF0;A2A6E7	Pyridoxine-5-phosphate oxidase	Pnpo	1.020654018	0.039634065
Q9Z247	Peptidyl-prolyl cis-trans isomerase FKBP9	Fkbp9	1.020594439	0.040564963
A2AQ07;CON__ENSEMBL:ENSBTAP00000025008	Tubulin beta-1 chain	Tubb1	1.020291258	0.045145501
E9Q8N1;E9Q8K5;A2ASS6;A2AT70;F7CR78	Titin	Ttn	1.020204658	0.046586109
P46737;A3KGA8	Lys-63-specific deubiquitinase BRCC36	Brcc3	1.020161676	0.047149984
P04444;P04443	Hemoglobin subunit beta-H1	Hbb-bh1	1.020139196	0.047455531
AOA0G2JER6;F8VQE9;Q8VHH5	Arf-GAP with GTPase, ANK repeat and PH domain-containing protein 3	Agap3	1.020096756	0.048186278
Q60994;E9PWU4	Adiponectin	Adipoq	1.020037156	0.049298722
D3Z0T5;Q8BQ47	Protein canopy homolog 4	Cnpy4	0.980164283	0.04690464
E9Q1D5;Q62219	Transforming growth factor beta-1-induced transcript 1 protein	Tgfb1i1	0.980115326	0.046180308
Q9Z2D6	Methyl-CpG-binding protein 2	Mecp2	0.979985468	0.043809052
Q9DBC3;G3UZ59;E0CXC2	Cap-specific mRNA (nucleoside-2-O-)-methyltransferase 1	Cmtr1	0.979953862	0.043462192
P97742	Carnitine O-palmitoyltransferase 1, liver isoform	Cpt1a	0.979922252	0.042980986
A0A087WRH2;Q9WUD8;D3Z3C1	Fas apoptotic inhibitory molecule 1	Faim	0.979896529	0.042621724
Q91VH6	Protein MEMO1	Memo1	0.979892045	0.042621724



A0A0U1RP47;A0A0U1RQ85;P22682;A0A0X1KG61	E3 ubiquitin-protein ligase CBL	Cbl	0.979794377	0.040928826
Q9QUR7;Q3ULQ2	Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1	Pin1;Pin1rt1	0.979226292	0.032074655
A2AWA9;A2AWA7;A2AWB0	Rab GTPase-activating protein 1	Rabgap1	0.97914004	0.030948791
Q9DBR0	A-kinase anchor protein 8	Akap8	0.97913283	0.030948791
Q99NB1	Acetyl-coenzyme A synthetase 2-like, mitochondrial	Acss1	0.978986155	0.029107083
Q8VHL1	Histone-lysine N-methyltransferase SETD7	Setd7	0.978925168	0.028365239
P11031	Activated RNA polymerase II transcriptional coactivator p15	Sub1	0.978914949	0.028332698
P32883	GTPase KRas;GTPase KRas, N-terminally processed	Kras	0.978898895	0.028220274
Q9CQ22;A0A0A6YX02	Ragulator complex protein LAMTOR1	Lamtor1	0.978893956	0.028220274
Q9Z1T2;A0A1D5RMB8;CON__ENSEMBL:ENSBTAP0000006074;Q9R0G6	Thrombospondin-4;Cartilage oligomeric matrix protein	Thbs4;Comp	0.978873327	0.028196265
P32233	Developmentally-regulated GTP-binding protein 1	Drg1	0.978579693	0.024800368
E9PWQ3;J3QQ16;A0A087WS16;D3YWD1		Col6a3	0.978498473	0.024014269
Q6NZR5;G3UYT1		Skiv2l	0.978490985	0.024014269
Q9CQN1	Heat shock protein 75 kDa, mitochondrial	Trap1	0.97841144	0.023277853
Q920E5;A0A0G2JEA5;A0A0G2JDJ5;A0A0G2JEB3;A0A0G2JE82	Farnesyl pyrophosphate synthase	Fdps	0.978390436	0.023129317
O08759;A0A0J9YUY4;A0A0J9YVG1;A0A0J9YUK0	Ubiquitin-protein ligase E3A	Ube3a	0.978367203	0.022956412
Q9QYE6;A0A1Y7VMD3	Golgin subfamily A member 5	Golga5	0.978309663	0.022398465
P41233;E9Q6G4;Q91V24	ATP-binding cassette sub-family A member 1	Abca1	0.978183692	0.021203509
D3Z7S0;D3Z4J5;Q9D1H7	Golgi to ER traffic protein 4 homolog	Get4	0.978156801	0.02109289
Q9CZR8;Q9CX33	Elongation factor Ts, mitochondrial	Tsfm	0.978129938	0.020896835
A2AAN0;O35250;A2AAN3	Exocyst complex component 7	Exoc7	0.978109247	0.020767044
Q9DAR7;Q3TBW9;D6RFQ0	m7GpppX diphosphatase	Dcps	0.977923082	0.019225315
Q80V42	Carboxypeptidase M	Cpm	0.977910337	0.019183096

CON__P04264			0.977884994	0.019019253
F8WH23;E9Q5D9;Q61581	Insulin-like growth factor-binding protein 7	Igfbp7	0.977881668	0.019019253
A0A1Y7VKN7;A0A1Y7VL28;Q80XC2	tRNA (adenine(58)-N(1))-methyltransferase catalytic subunit TRMT61A	Trmt61a	0.977782237	0.018206745
E9Q6Q8;E0CX53;Q8BYJ6;H7BX82;F6SUV7	TBC1 domain family member 4	Tbc1d4	0.977730393	0.017886172
P97470;A0A0U1RPR5	Serine/threonine-protein phosphatase 4 catalytic subunit	Ppp4c	0.977712727	0.017803153
Q922F4	Tubulin beta-6 chain	Tubb6	0.977575739	0.016668829
P58742	Aladin	Aaas	0.977568604	0.016668829
Q80VP1	Epsin-1	Epn1	0.977548308	0.016581379
Q6PAV2	Probable E3 ubiquitin-protein ligase HERC4	Herc4	0.977461004	0.015993763
Q3U0I9;Q8CFD4;A0A0G2JDJ6;A0A0G2JEQ9	Sorting nexin-8	Snx8	0.977441271	0.015902846
P82198;Q3UXJ2	Transforming growth factor-beta-induced protein ig-h3	Tgfbf	0.977401114	0.015646397
Q4PZA2	Endothelin-converting enzyme 1	Ece1	0.977388757	0.015617265
Q923T9;A0A286YCW8;A0A286YCH4	Calcium/calmodulin-dependent protein kinase type II subunit gamma	Camk2g	0.97737996	0.01561724
Q5JC28;H3BK65;P42567;F6W2Q5;A0A0R4J0A0;H3BJB8	Epidermal growth factor receptor substrate 15	Eps15	0.977326503	0.015330174
Q920I9	WD repeat-containing protein 7	Wdr7	0.977256144	0.014986662
Q9D566;P49891	Sulfotransferase;Estrogen sulfotransferase, testis isoform	Sult1e1	0.977192732	0.014567385
Q6PGL7;A0A0N4SUJ0;A0A0N4SV74	WASH complex subunit FAM21	Fam21	0.977113653	0.014109886
Q8BMT0		Serpib9d	0.977103112	0.014099018
Q00519;G3X982;Q3TYQ9	Xanthine dehydrogenase/oxidase;Xanthine dehydrogenase;Xanthine oxidase	Xdh	0.976660626	0.011376085
O08738	Caspase-6;Caspase-6 subunit p18;Caspase-6 subunit p11	Casp6	0.976611161	0.011188415
Q02788;D3Z7D5	Collagen alpha-2(VI) chain	Col6a2	0.976350071	0.009870522
A2AFQ0;Q7TMY8;F6XP90;F6UYC1	E3 ubiquitin-protein ligase HUWE1	Huwe1	0.976311555	0.009715737
Q9D7H3;D6RD00;D6REI7;D3Z263	RNA 3-terminal phosphate cyclase	RtcA;Rtca	0.976273196	0.009564129
A0A0R4J0I1			0.976270572	0.009564129

Q9CWQ8;Q8CAB8	GATS-like protein 3	Gatsl3	0.976007641	0.008535361
Q9D1M7	Peptidyl-prolyl cis-trans isomerase FKBP11	Fkbp11	0.976004548	0.008535361
Q9CQW5	Galectin-2	Lgals2	0.975919716	0.008219379
Q9CQ10;A0A0N4SVS3;A0A0N4SUX9	Charged multivesicular body protein 3	Chmp3	0.975852667	0.007963952
A2AA71;Q3U2P1;A2AA72	Protein transport protein Sec24A	Sec24a	0.975808743	0.007814898
P50285;Q3UNX7;D3Z0T2;A0A0A6YVP9;Q8C9C1	Dimethylaniline monooxygenase [N-oxide-forming] 1	Fmo1	0.975776686	0.007760171
Q99JY8	Lipid phosphate phosphohydrolase 3	Ppap2b	0.97567569	0.007446067
D5MCW4;Q9CQ89	Protein CutA	Cuta	0.975656884	0.007421762
Q8BWM0	Prostaglandin E synthase 2;Prostaglandin E synthase 2 truncated form	Ptges2	0.975620782	0.007355105
Q91WK1	SPRY domain-containing protein 4	Spryd4	0.9755954	0.007292521
Q8BH69	Selenide, water dikinase 1	Sephs1	0.975463772	0.006853517
A6H5Z3	Exocyst complex component 6B	Exoc6b	0.975194282	0.006027715
Q6S9I0;Q6S9I3		Kng2	0.975093248	0.005726376
Q9Z160;Q810S7;F6QQB5;A2A6N9;F6RK91;F6V3F1	Conserved oligomeric Golgi complex subunit 1	Cog1	0.975060341	0.005653378
Q91W97	Putative hexokinase HKDC1	Hkdc1	0.975058423	0.005653378
Q91W96;D6RDT6	Anaphase-promoting complex subunit 4	Anapc4	0.975028965	0.005619076
O88986;E9PWY6	2-amino-3-ketobutyrate coenzyme A ligase, mitochondrial	Gcat	0.974752304	0.004856491
A0A087WRE5;Q6P3D0;A0A087WSB5;E9Q9G1;Q8VHN8	U8 snoRNA-decapping enzyme	Nudt16	0.974381808	0.004017765
D3YXQ6		Psg16	0.97428743	0.003826487
Q99MR3	Solute carrier family 12 member 9	Slc12a9	0.974239815	0.003744672
Q3V493;Q9ES56	Trafficking protein particle complex subunit 4	Trappc4	0.97403545	0.00336369
Q9JJK1;A0A0A6YXG0;A0A0A6YW23	Syntaxin-6	Stx6	0.974021313	0.00335682
Q80SX7;Q8BXL7;V9GX20;E9PZK7	ADP-ribosylation factor-related protein 1	Arfrp1	0.973632262	0.002699837

A0A0R3P9C8;Q9DC69	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial	Ndufa9	0.973581479	0.002636
E9QAU4;A2AQ25;D3Z781;Q8BHR1;B1AY50;B1AY49	Sickle tail protein	Etl4;Skt	0.973402403	0.002398441
Q9JK53	Prolargin	Prelp	0.973255859	0.002209977
Q8C142	Low density lipoprotein receptor adapter protein 1	Ldlrap1	0.972786772	0.001671403
Q3UIL6;A0A1L1SQ79;S4R243	Pleckstrin homology domain-containing family A member 7	Plekha7	0.972447556	0.001373369
Q8VCM3;A0A1Y7VLE1;A0A1Y7VNH4;A0A1Y7VJT0	Zinc finger FYVE domain-containing protein 21	Zfyve21	0.972424664	0.001363042
Q9Z2A7;F6V8W6	Diacylglycerol O-acyltransferase 1	Dgat1	0.971944437	0.001022259
Q3TCU5;Q9R233;G3UZZ2	Tapasin	Tapbp	0.971932947	0.001021809
Q9JJE7	Fatty acid desaturase 3	Fads3	0.971744842	0.000919424
Q63810	Calcineurin subunit B type 1	Ppp3r1	0.971687403	0.000892577
E9QQ99;D3Z1Y1;A0A0R4J1R1;Q9DBY1;D3YZH4	E3 ubiquitin-protein ligase synoviolin	Syvn1	0.971593136	0.000846327
Q3TAW3;E9Q296;Q8C178;Q9EPL9;A0A0J9YVH1;D3Z2N6	Acyl-coenzyme A oxidase;Peroxisomal acyl-coenzyme A oxidase 3	Acox3	0.971572073	0.000840915
P70227;P11881	Inositol 1,4,5-trisphosphate receptor type 3	Itpr3	0.97142875	0.000772486
Q9D6A7;I7HJI5;J3JSA2		Serpib9c	0.971102579	0.000643939
Q6P2B1;F6TDZ2;E9Q0H8;A0A0U1RQ41;Q8K368	Transportin-3	Tnpo3	0.971021306	0.000619857
Q80UG2;P70207	Plexin-A4	Plxna4	0.971012757	0.000619857
D3Z041;P41216;D3Z457;D3YVF6;F6WNZ2	Long-chain-fatty-acid--CoA ligase 1	Acsl1	0.970982575	0.000613544
Q3TCD4;Q9WUR2;E9Q7A8;E9PYC6;E9Q858;E9PUY9;E9PYA9;E9PVM6;E9PY42;Q78JN3	Enoyl-CoA delta isomerase 2, mitochondrial	Eci2	0.970825502	0.000557815
A0A0G2JGD2;P07091	Protein S100-A4	S100a4	0.970791922	0.000549846
Q8C147	Dedicator of cytokinesis protein 8	Dock8	0.970684012	0.000520148
Q9DBG7;F6VF36	Signal recognition particle receptor subunit alpha	Srpr	0.9706782	0.000520148

Q06138;Q9DB16	Calcium-binding protein 39	Cab39	0.970625495	0.000508385
P70663	SPARC-like protein 1	Sparcl1	0.97057715	0.000496331
Q81157	Upstream-binding protein 1	Ubp1	0.97038049	0.000439102
F8WGI9;Q91YY0;P98156;F8WIN7	Very low-density lipoprotein receptor	Vldlr	0.970323525	0.000429672
Q5SRX1;Q5SXA5;Q5SXA4	TOM1-like protein 2	Tom1l2	0.970219408	0.000404105
O35114	Lysosome membrane protein 2	Scarb2	0.970035607	0.000360169
Q8R5A6;Q80VE5	TBC1 domain family member 22A	Tbc1d22a;Tbc1d22b	0.969894384	0.000332976
Q61176	Arginase-1	Arg1	0.969586868	0.000277215
Q9QZ82;A0A087WRU6	Cholesterol side-chain cleavage enzyme, mitochondrial	Cyp11a1	0.969483718	0.000262898
Q91XC9	Peroxisomal membrane protein PEX16	Pex16	0.969293536	0.000232742
A2AJY7;A2AJY5;A2AJY2;O35206	Collagen alpha-1(XV) chain;Restin	Col15a1	0.969177414	0.00021674
Q62384;F8WHU9	Zinc finger protein ZPR1	Zpr1	0.969143882	0.000214386
Q04207;A4QPD3;P15307	Transcription factor p65;Proto-oncogene c-Rel	Rela;Rel	0.968349296	0.00012702
Q9DAU1;B0V2V1	Protein canopy homolog 3	Cnpy3	0.968263579	0.000120649
Q9EQ09;E0CXW6	Oxidized low-density lipoprotein receptor 1;Oxidized low-density lipoprotein receptor 1, soluble form	Olr1	0.967731348	8.31E-05
E9Q5B2;G5E8X1;Q9DCS2;D3YZM4;E9Q7K5	UPF0585 protein C16orf13 homolog	O610011F06Rik	0.967714621	8.31E-05
F6Z4F8;A2A7F7;Q9WU20;A2A7F9	Methylenetetrahydrofolate reductase	Mthfr	0.967686084	8.29E-05
Q8JZV7;F6UP77;F7CUP3	Putative N-acetylglucosamine-6-phosphate deacetylase	Amdhd2	0.967500006	7.38E-05
A0A087WS27;D3Z5S8		Fam46a	0.967334206	6.68E-05
D3Z383;Q07646	Mesoderm-specific transcript protein	Mest	0.967279923	6.53E-05
Q8BW75;E9Q3X6;E9PVL9	Amine oxidase [flavin-containing] B	Maob	0.967251587	6.48E-05
A0A0G2JFM9;E9PUK3;E9PUI5;Q8K012	Formin-binding protein 1-like	Fnbp1l	0.967069737	5.73E-05
F7C386;F6TVX7;Q8BSF4;E9PX91;D3YY63	Phosphatidylserine decarboxylase proenzyme;Phosphatidylserine decarboxylase alpha chain;Phosphatidylserine decarboxylase beta chain	Pisd;Gm20671	0.966837483	4.93E-05

O88531;B1B0P8;B1B0P9	Palmitoyl-protein thioesterase 1	Ppt1	0.966537348	4.13E-05
O35551;Q3U983;J3QJV7	Rab GTPase-binding effector protein 1	Rabep1	0.966261188	3.47E-05
A2A5N7;D3Z6V6;Q8BTJ4	Bis(5-adenosyl)-triphosphatase enpp4	Enpp7;Enpp4	0.965998587	2.88E-05
Q64449;A2AAA9	C-type mannose receptor 2	Mrc2	0.965090245	1.46E-05
Q9WUR9;A2ARF6;F6TEU8	Adenylate kinase 4, mitochondrial	Ak4	0.965017586	1.40E-05
Q3U125;Q9CYH2;D3Z0A8;D3YYG8;D3Z398; D3Z252;D3Z143;D3YWL4	Redox-regulatory protein FAM213A	Fam213a	0.965001338	1.40E-05
A0A0R4J1G5;Q91X78	Erlin-1	Erlin1	0.9646569	1.08E-05
Q99LT0	Protein dpy-30 homolog	Dpy30	0.964557032	1.01E-05
Q5SUF2;F8WGA8	Luc7-like protein 3	Luc7l3	0.963981493	6.56E-06
F8WHG5;Q60823	RAC-beta serine/threonine-protein kinase	Akt2	0.96384603	6.04E-06
A0A1L1SRW7;A0A1L1SS90;A0A0R4J050;Q9 9JW2;A0A1L1SRC1;A0A1L1SRL5;A0A087W PX1;A0A087WRE0;A0A1L1SSU4	Aminoacylase-1	Acy1	0.963375697	4.35E-06
F8WJI3;Q8R3Q6;E9Q4B5	Coiled-coil domain-containing protein 58	Ccdc58	0.963040439	3.35E-06
Q3V0K9;D3Z6J7	Plastin-1	Pls1	0.962889946	3.05E-06
Q8VCR7;A0A087WPF8;A0A087WSR2;E9QN 99;A0A087WP24;A0A087WRJ2;A0A1L1SRH 5;A0A1L1SUX1	Alpha/beta hydrolase domain-containing protein 14B	Abhd14b	0.9625471	2.33E-06
Q9DAZ2;Q5SXX2	Prolactin-2B1	Prl2b1	0.961754624	1.21E-06
A0A0X1KG62;Q8C4Y3;F6UFF7;F6SWS9	Negative elongation factor B	Nelfb	0.961522814	1.01E-06
E9QKZ2;Q91YE6;E0CXB2;F6TLX3;E0CY46;F6 UT58	Importin-9	Ipo9	0.961365749	8.92E-07
J3QNK8;Q8CBW3;A0A087WP64;A0A087W PE6;A0A087WNT3;A0A087WNU9;A0A087 WRS3;A0A087WPP8;Q6AXH6;Q6AXD2;P62 484	Abl interactor 1	Abi1	0.961324888	8.75E-07
Q9ER81	Torsin-1A-interacting protein 2, isoform IFRG15	Tor1aip2	0.961281079	8.57E-07
P47857	ATP-dependent 6-phosphofructokinase, muscle type	Pfkm	0.961176101	7.95E-07

Q6PB93	Polypeptide N-acetylgalactosaminyltransferase 2;Polypeptide N-acetylgalactosaminyltransferase 2 soluble form	Galnt2	0.961165845	7.95E-07
F6Q3K8;Q924M7	Mannose-6-phosphate isomerase	Mpi	0.960830666	6.09E-07
Q62056		Psg17	0.960792703	6.00E-07
Q9Z110;D3Z0B4	Delta-1-pyrroline-5-carboxylate synthase;Glutamate 5-kinase;Gamma-glutamyl phosphate reductase	Aldh18a1	0.960701473	5.64E-07
Q3U0V2	Tumor necrosis factor receptor type 1-associated DEATH domain protein	Tradd	0.960515491	4.87E-07
Q61805;A2AC65;F6XKX9	Lipopolysaccharide-binding protein	Lbp	0.959575845	2.18E-07
Q80WQ2;A0A1D5RLY2	Protein VAC14 homolog	Vac14	0.959094301	1.44E-07
Q9JHW9;G3UWP3;A0A140LIF9;Q62148	Aldehyde dehydrogenase family 1 member A3	Aldh1a3	0.955836375	7.30E-09
P51432	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase beta-3	Plcb3	0.955614867	6.13E-09
Q3UTR7;P11859	Angiotensinogen;Angiotensin-1;Angiotensin-2;Angiotensin-3;Angiotensin-4;Angiotensin 1-9;Angiotensin 1-7;Angiotensin 1-5;Angiotensin 1-4	Agt	0.954807666	2.93E-09
Q9DBN5;Q8BK80	Lon protease homolog 2, peroxisomal	Lonp2	0.954211565	1.63E-09
A0A075B6A3;A0A0A6YXW6		Igha	0.953890214	1.20E-09
B7ZC23;B7ZC24;Q91W39	Nuclear receptor coactivator 5	Ncoa5	0.951375849	8.74E-11
Q6P8N8;Q9JHS4;F7BB92	ATP-dependent Clp protease ATP-binding subunit clpX-like, mitochondrial	Clpx	0.950775693	4.64E-11
D3Z6W7;Q3UHH8	Glucoside xylosyltransferase 1	Gxylt1	0.949341752	9.54E-12
A0A0R4J0P1;Q9D7B6;D3YTT4;A0A1L1SUG2	Isobutyryl-CoA dehydrogenase, mitochondrial	Acad8	0.949151707	7.91E-12
H3BJ30;H3BJW3;Q6NVF9;H3BKW0	Cleavage and polyadenylation specificity factor subunit 6	Cpsf6	0.948418032	3.49E-12
E9Q6L4;Q60949	TBC1 domain family member 1	Tbc1d1	0.948381575	3.46E-12
Q61823	Programmed cell death protein 4	Pdcd4	0.947810966	1.82E-12
E9PZ88;F8WIE1;Q91W89;E9PYM7;F6TFL1	Alpha-mannosidase 2C1	Man2c1	0.946474484	4.06E-13
Q7M732	Retrotransposon-like protein 1	Rtl1	0.946404437	3.69E-13

A0A087WR20;P49935	Pro-cathepsin H;Cathepsin H mini chain;Cathepsin H;Cathepsin H heavy chain;Cathepsin H light chain	Ctsh	0.943031552	0
Q6PKB0;Q61559;A0A1B0GSK0	IgG receptor FcRn large subunit p51	Fcgrt	0.941745827	0
Q9JLN9	Serine/threonine-protein kinase mTOR	Mtor	0.939012815	0
Q9Z315	U4/U6.U5 tri-snRNP-associated protein 1	Sart1	0.934059022	0
CON__P13645;A2A513;CON__P02535-1;P02535;CON__Q148H6;CON__Q7Z3Y7;CON__Q7Z3Z0;CON__Q7Z3Y8			0.930688563	0
Q3U487	E3 ubiquitin-protein ligase HECTD3	Hectd3	0.927746563	0
A2ARV4;A2ARV5	Low-density lipoprotein receptor-related protein 2	Lrp2	0.924717577	0
Q9D3P8;D3YXU2;D3YY76;D3YV19	Plasminogen receptor (KT)	Plgrkt	0.92373798	0
O54950;D3YUS1;Q8BIQ9;Q91WG5	5-AMP-activated protein kinase subunit gamma-1	Prkag1	0.920449787	0
O08601	Microsomal triglyceride transfer protein large subunit	Mttp	0.920334783	0
P70695	Fructose-1,6-bisphosphatase isozyme 2	Fbp2	0.917260255	0
CON__P48668;CON__P04259;CON__P02538;CON__P19013			0.910125464	0
Q9JLB4	Cubilin	Cubn	0.908571976	0
Q9CQ40	39S ribosomal protein L49, mitochondrial	Mrpl49	0.905094094	0
Q99JB7	Protein amnionless	Amn	0.900314347	0
Q60960;G3UXF0	Importin subunit alpha-5;Importin subunit alpha-5, N-terminally processed	Kpna1	0.890951568	0
Q05793	Basement membrane-specific heparan sulfate proteoglycan core protein;Endorepellin;LG3 peptide	Hspg2	0.860502184	0
O08712	Tumor necrosis factor receptor superfamily member 11B	Tnfrsf11b	0.852761721	0



**Table S3. Clinical Characteristics of Human Placentae Donors**

Maternal age at delivery (yrs)	Tumor stage (AGCC 2107)	Surgery during pregnancy	Chemo during pregnancy	Epirubicin total dose (mg/sqm)	Sex and kindred	Gestational age at delivery (wks)	Baby birth weight (g)
33	IIA	Biopsy	EC x 6	450	M G1	40	2690 (SGA)
37	IIA	Quad + axilla	EC x 4	300	F G3	37	2660 (AGA)
38	IIB	Mast + axilla	EC x 2	150	M G1	36	3635 (AGA)
32	IIB	Biopsy	EC x 3	225	M G2	39	3180 (AGA)
35	IIA	Biopsy	EC x 4	300	F G2	38	3070 (AGA)
41	IA	Quad + axilla	wE x 8	280	M G1	38	2825 (AGA)
37	IIIA	Mast + axilla	EC x 3	225	F G2	36	2830 (AGA)

Abbreviations:

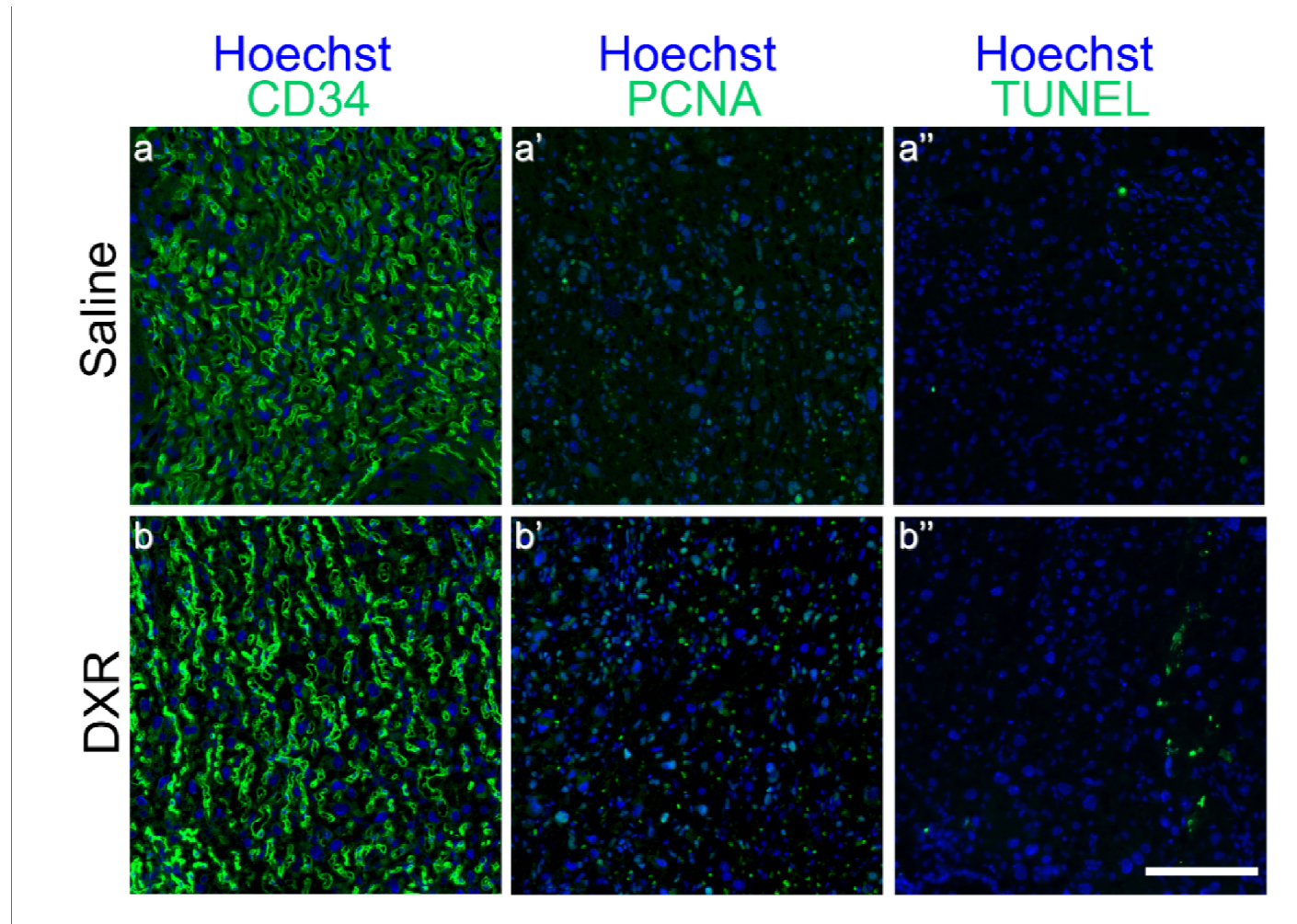
EC: Epirubicin/Cyclophosphamide; wE: weekly Epirubicin; M: male; F: female; G: number of kindred;

SGA: small for gestational age\*; AGA: appropriate for gestational age\*

\*according to Bertino E, Spada E, Occhi L et al. Neonatal anthropometric charts: the Italian neonatal study.

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**Figure S1. Histology of mice placentae**



Representative pictures of control- (a-a'') or DXR-exposed (b-b'') mice-placenta, stained for CD34 (neovascularization; a,b), PCNA (proliferation; a',b') or TUNEL (apoptosis; a'',b''). Florescence images were photographed by LSM-510 confocal laser-scanning microscope; offset calibration of the hotomultiplier was performed with sections stained with secondary antibodies only. Bar = 100  $\mu$ m.