Supplementary material for:

Parental vitamin deficiency affects the embryonic gene expression of immune-, lipid transport- and apolipoprotein genes

Kaja H. Skjærven[1*], Lars Martin Jakt[2], John Arne Dahl[3], Marit Espe[1], Håvard Aanes[3], Kristin Hamre[1] and Jorge M.O. Fernandes[2]

[1]National Institute of Nutrition and Seafood Research, NIFES, Norway
[2]Faculty of Biosciences and Aquaculture, Nord University, Norway
[3]Institute of Medical Microbiology, Oslo University Hospital, Norway

[*]Corresponding author:

Dr. Kaja Helvik Skjærven

National Institute of Nutrition and Seafood Research (NIFES),

PO Box 2029 Nordnes,

5817 Bergen, Norway

Tel.:+4741458362; fax: +4755905299.

E-mail address: ksk@nifes.no
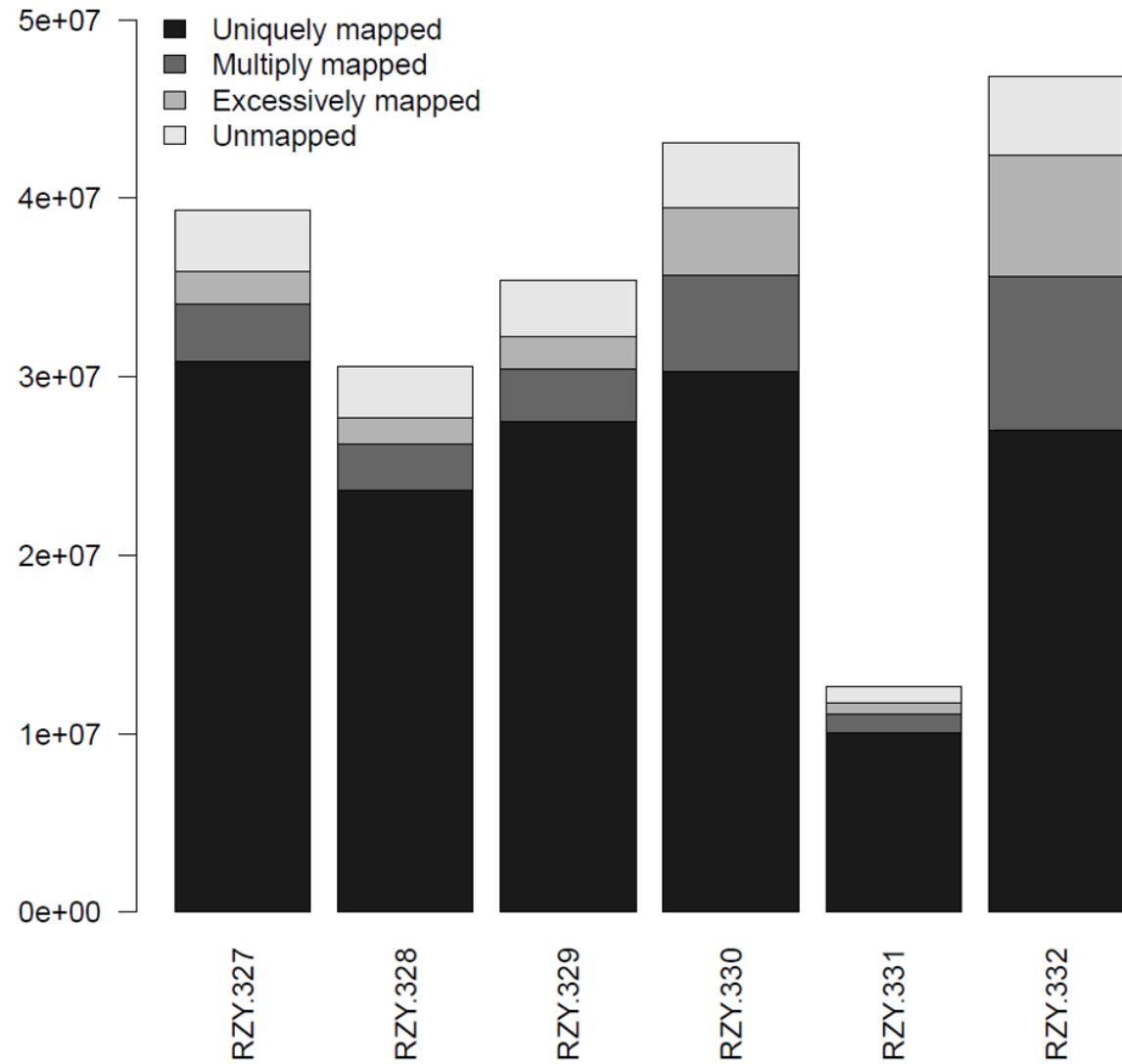
Figure S1: Mapping statistics from STAR for Illumina Hi-sequencing run indicating total reads, uniquely mapped and excessively mapped reads for each of the three independent samples from each feeding group. Low 1-C: RZY.327-329, Control: RZY.330-332.
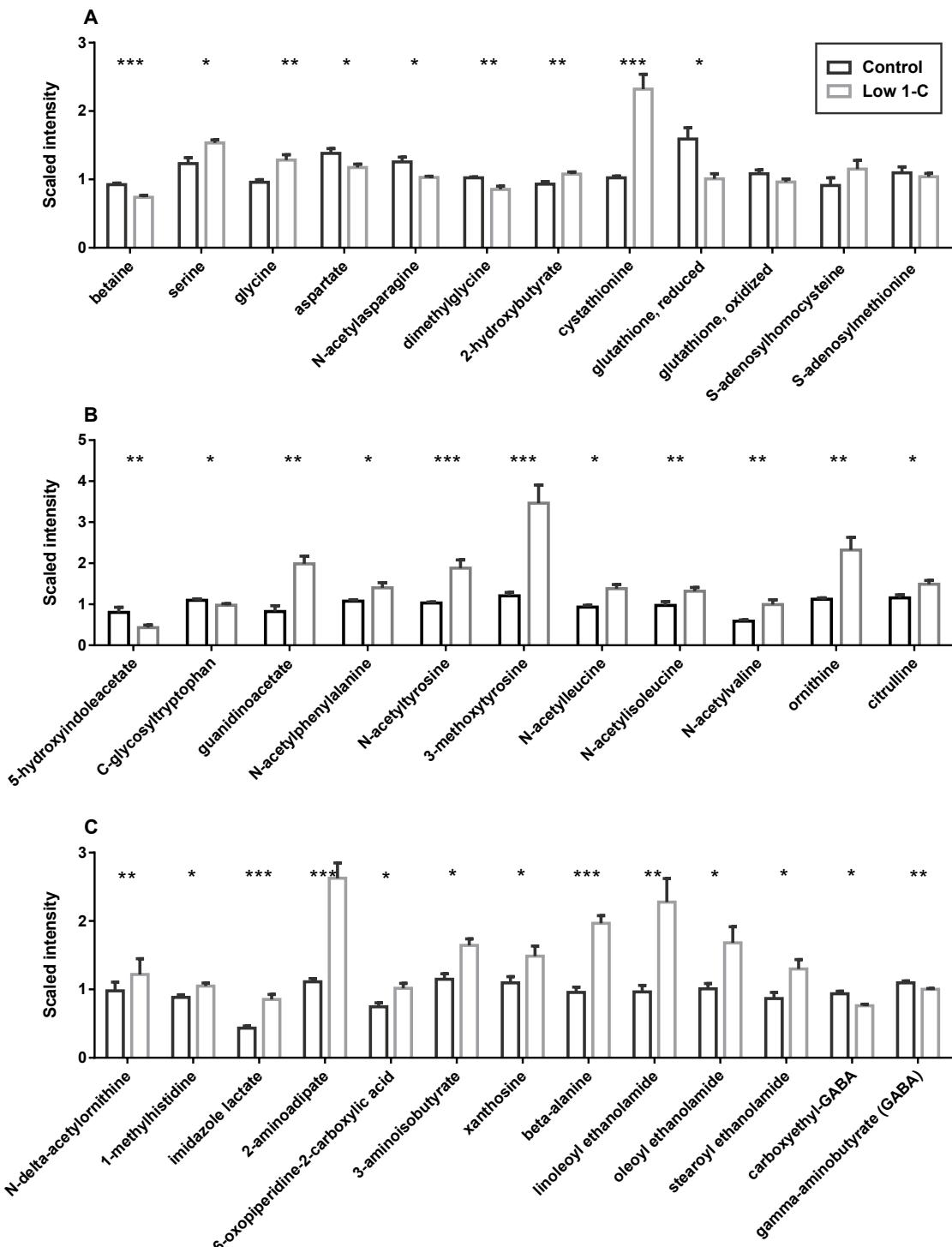
Figure S2: F$_0$ metabolic profiling of significantly altered metabolites zebrafish (44 DPF) fed control or low 1-C diet. A: Scaled intensity of metabolites involved in the 1-C pathway. Oxidized glutathione, S-adenosylhomocysteine, and S-adenosylmethionine were not significantly altered. **B:** Scaled intensity of significantly altered metabolites related to amino acid metabolism and **C:** related to amino acid (continuation from B), endocannabinoid (linoleoyl-, oleoyl- and steraoyl etahanolamide) and neurotransmitter (gamma-aminobutyrate (GABA) and carboxyethyl-GABA) metabolism and regulation. Values represent pooled samples of 20 fish from 6 independent tanks from each diet. Significant differences between feed groups are marked by asterisks (* = p < 0.05, ** = p < 0.01, *** = p < 0.001). For pathway enrichment, fold changes, and q-values see Table S3, for pathway classification network interactions of amino acids, see Fig. 3.
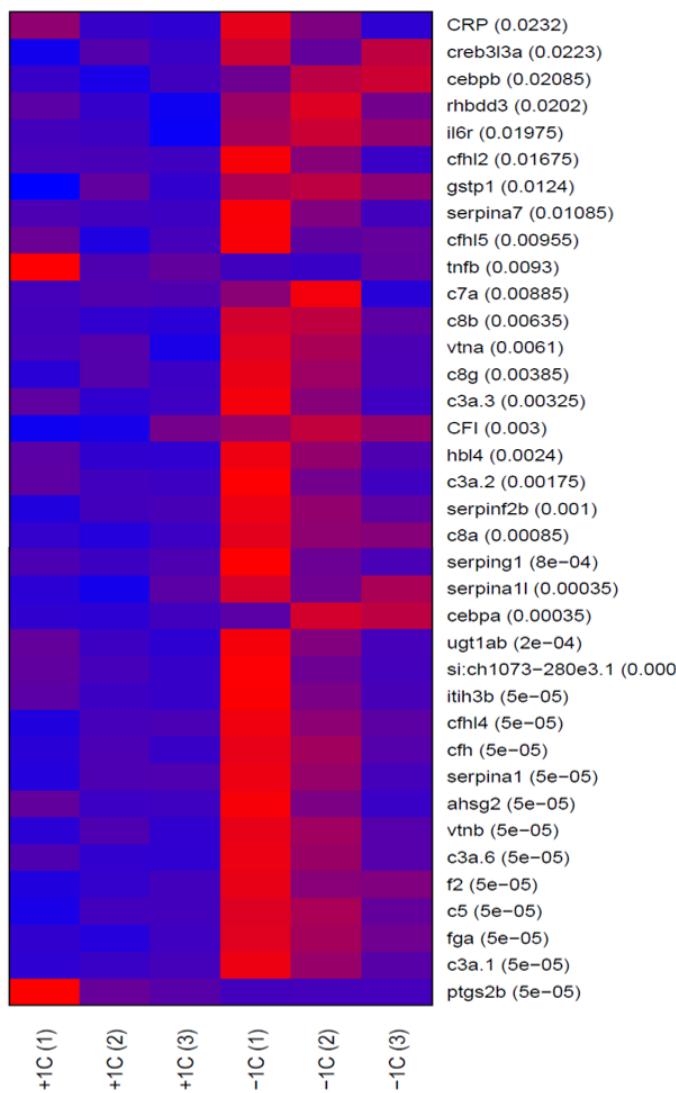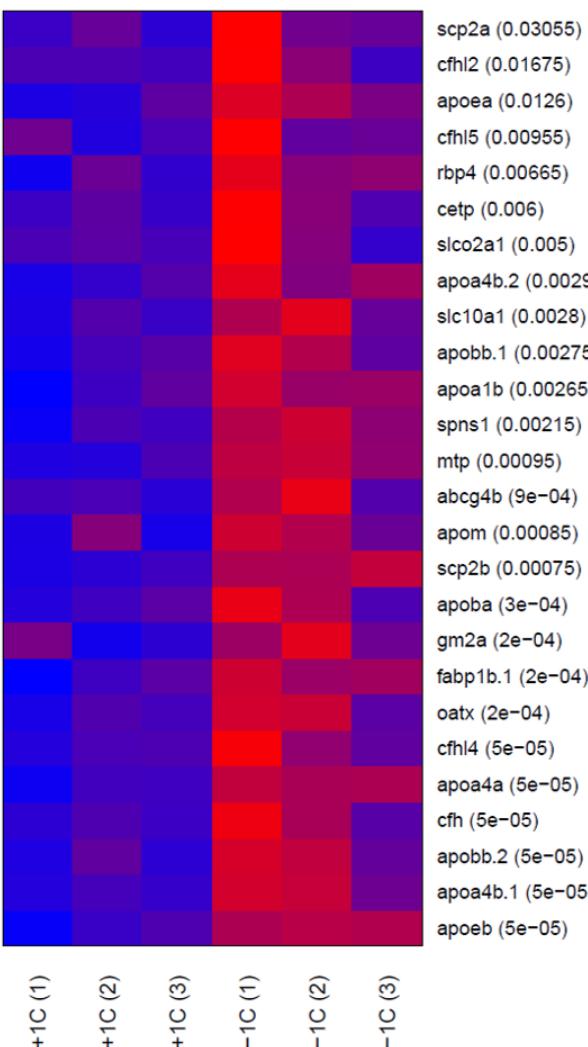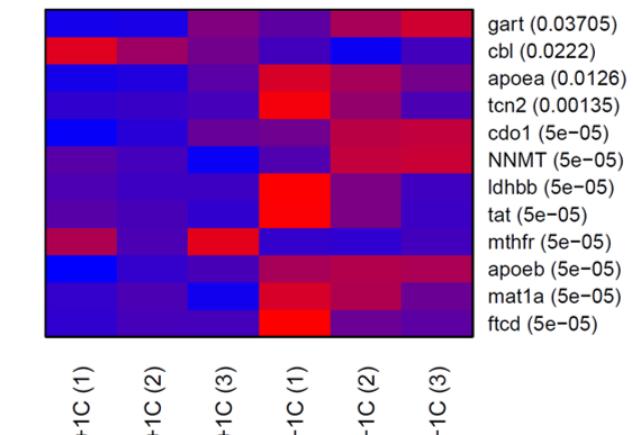
Figure S3: Gene expression of significant GO terms affected from control (+1C) and low 1-C (-1C) F$_1$ embryos. A: 35 significantly affected transcripts from the Acute inflammatory response GO term, **B:** 26 significantly affected transcripts from the Lipid transporter GO term **C:** 12 significantly affected transcripts from the 1-C metabolism genes. Expression levels are indicated by colour codes, with blue to red indicating min to max expression level for each gene, respectively. Each row of the heat map with its given gene name ID displays gene expression level of differentially expressed genes. P-values are indicated next to the gene names.

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Oxidation−reduction process
(119/1148 p=6.6e−25)

plod1a (0.01475)
ptgs2b (5e−05)
sqlea (0.0341)
aldoaa (0.00035)
p4ha2 (0.00025)
pfklb (0.0085)
mgst2 (1e−04)
hk1 (0.0466)
kdm7aa (0.00745)
CABZ01060335.1 (0.0181)
kdm2bb (0.0337)
ndufa9a (0.04725)
hmox2b (0.01025)
si:ch1073−100f3.2 (0.02535)
cyp1b1 (0.04835)
slc25a23a (0.03535)
cox6b1 (5e−05)
gpia (5e−05)
hif1an (5e−05)
p4ha1b (5e−05)
egln2 (5e−05)
mthfr (5e−05)
GSK3B (2 of 2) (5e−05)
slc2a1b (0.0026)
jmjd6 (0.02325)
egln3 (5e−05)
tet3 (0.00905)
ldha (8e−04)
insrb (0.04285)
cyp1a (0.00605)
pgk1 (0.0231)
gapdhs (0.0027)
eno1a (0.00055)
cdo1 (5e−05)
rrm2b (0.00785)
dhdhl (0.0318)
glud1a (0.01)
scp2b (0.00075)
sod3a (5e−05)
apoa4a (5e−05)
ndufa13 (0.00055)
suclg2 (0.00095)
cyp2k16 (0.0273)
cbr1 (0.0038)
cyp2y3 (0.0216)
txn (5e−05)
prkar1b (0.00075)
PRKAR1B (5e−04)
bco2l (0.04745)
dcxr (0.01165)
hacl1 (0.03015)
cybrd1 (0.044)
abcc4 (0.0386)
hsd3b2 (0.0167)
gpd1b (5e−05)
mpx (0.03395)
hsd3b7 (1e−04)
apoa4b.1 (5e−05)
aass (0.0419)
msrb2 (0.00245)
ugp2a (0.02245)
blvrb (0.01475)

gnmt (0.0068)
cpt1ab (7e−04)
apom (0.00085)
dpydb (0.0061)
sccpdha (0.0047)
aldh8a1 (5e−05)
PRODH2 (0.00215)
si:zfos−411a11.2 (0.00295)
ucp2 (5e−05)
sardh (5e−05)
hmox1a (5e−05)
hsd17b4 (9e−04)
qsox1 (5e−04)
pparda (0.0443)
dhcr24 (0.0016)
h6pd (0.0257)
aldh16a1 (0.04695)
aldh2.1 (0.01085)
porb (0.0094)
dio2 (0.00375)
cyp46a1.2 (0.0206)
pygl (0.0102)
tyrp1b (3e−04)
slc25a4 (0.02395)
dct (0.00285)
tyrp1a (0.00235)
haao (0.00545)
scp2a (0.03055)
ldhbb (5e−05)
hgd (5e−05)
cyp2k22 (0.01295)
cyp4v8 (0.0298)
fads2 (5e−05)
cat (5e−05)
scd (5e−05)
ucp1 (9e−04)
cp (0.02225)
hsd11b2 (1e−04)
cox5b2 (0.0104)
hao1 (0.0474)
marcksb (0.03755)
acacb (0.03435)
mtfr1 (0.0154)
marcksa (0.01695)
hadh (0.02915)
tdg.1 (0.0334)
PPP1R3G (5e−05)
dhrs9 (0.00015)
ehhadh (0.00235)
hao2 (0.00145)
miox (5e−05)
acaca (0.00225)
PKLR (0.00045)
faxdc2 (0.0207)
apoa4b.2 (0.0029)
apoa1b (0.00265)
fabp1b.1 (2e−04)

+1C (1) +1C (2) +1C (3) −1C (1) −1C (2) −1C (3)

Figure S4: Significantly affected transcripts in low 1-C embryos compared to control embryos from the oxidation-reduction process GO term. In total 119 transcripts were differentially expressed in control (+1C) and low 1-C (-1C) F_1 embryos. Expression levels are indicated by colour codes, with blue to red indicating min to max expression level for each gene, respectively. Each row of the heat map with its given gene name ID displays gene expression level of differentially expressed genes. P-values are indicated next to the gene names.
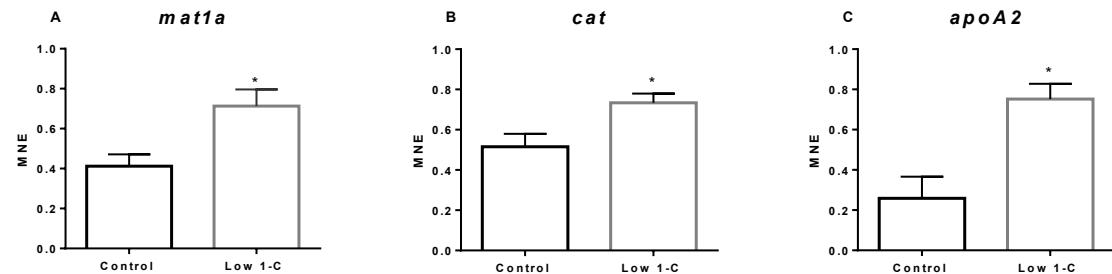
Figure S5: RNA sequencing verification by RT-qPCR. mRNA levels presented as mean normalized expression (MNE) in control embryos versus low 1-C embryos. MNE of target genes are normalized against *ef1a* and *tuba1* as reference genes. All data points presented are the means ± SD of 3 independent groups (egg incubation groups originating from independent parents from different feeding tanks) of 30 embryos at 26 somite stage. Significant differences are marked by asterisk (* = p < 0.05). Gene abbreviations, name and accession number are given in table S2.

Table S1: Standard procedures for zebrafish mating, handling and feeding used for both F_0 and F_1 generations.

Days post fertilization	Incubation devise	Incubation medium	Number of individuals	Special handling	Feed Artemia concentrate (µL) morning	noon	Gemma Micro 70 (mg) morning	afternoon
0-2.5	Petri dish (80mm)*	E3 **	120	Rinse eggs in E3, remove dead eggs				
2.5 - 4	Petri dish (80mm)*	E3	120	Change 80% of the water every day				
4 - 5	Beakers 250 (mL)*	100mL E3	60	Transfer to beakers				
5 - 7	Beakers 250 (mL)*	100mL E3	60	Start feeding Gemma Micro			10	10
7 - 10	Beakers 250 (mL)*	200mL E3	60	Start feeding artemia	100		10	10
10 - 15	1.5L Aquatic Habitat tanks	0.5L E3 + 0.5L System water	60	Transfer to system tanks. Add additional 0.5L system water/day	400	400	40	40
15 - 27	3L Aquatic Habitat tanks	System water	60	Turn on system circulation, low speed. Gradually increase circulation speed each day	600	600	60	60
27	3L Aquatic Habitat tanks	System water	60	Start feeding experimental diets	Experimental diets: Control and Low 1-C			

* The embryos and larvae were kept in an incubator at 28.5°C and 12/12h light and dark cycles
** E3 medium: https://wiki.zfin.org/display/prot

Table S2: Gene abbreviation, gene name, gene bank accession number, forward and reverse primer sequence, primer amplicon size and qRT-PCR efficiency for selected reference and target genes analysed.

Gene abbr.	Gene name	Accession no.	Forward primer (5' - 3')	Reverse primer (5' - 3')	Amplicon size (bp)	PCR eff.
Reference genes:						
ef1α	Elongation factor 1 α	NM_131263.1	AGACAACCCCAAGGCTCTCA	CTCATGTCACGCACAGCAAA	126	1,99
tuba1	tubulin, alpha 1c	NM_001105126	GGTGCCCTCAATGTGGATCT	GCCACAGAGAGCTGCTCATG	131	2,06
Target genes:						
mat1a	methionine adenosyltransferase 1, alpha	NM_199871	CGGCTCATCGGAAAAAACAG	GACCATAGCAGGCGGTGTTC	131	2,12
cat	catalase	NM_130912	ACTACCAGTCAACTGCCCGTA	GAAGAACGTGCGCACTTGGG	226	1,99
apoA2	apolipoprotein A-II	NM_001130586	TTCTTGCACTCCAAGTGTCAGT	CCCTCTAGTGCTGGCTCAAC	131	2,01

Table S3: Main pathway and sub pathway enrichment analysis showing metabolites affected by dietary 1-C deficiency in F_0.

| Main Pathway Name | Main Pathway Enrichment (K*/M*)/(n/N) | Sub Pathway Name | Compounds In Pathway | | Sub Pathway Enrichment (k/m)/(n/N) | Statistically significant (p<0.05) metabolites affected (fold changes of Low 1-C / control). q-values (bold metabolite name indicate q-value < 0.1, others < 0.3) |
			Significant (k)	Detected (m)		
Amino acid	2,39	Alanine and Aspartate Metabolism	2	6	3,9	aspartate (-0.85), N-acetylasparagine (-0.82)
		Glycine, Serine and Threonine Metabolism	4	9	5,2	**betaine** (-0.80), serine (+1.25) glycine (+1.34),
		Tryptophan Metabolism	2	6	3,9	5-hydroxyindoleacetate (-0.54), C-glycosyltryptophan (-0.89)
		Creatine Metabolism	1	4	2,9	**guanidinoacetate** (+2.41)
		Phenylalanine and Tyrosine Metabolism	3	13	2,7	N-acetylphenylalanine (+1.30), **N-acetyltyrosine** (+1.84), **3-methoxytyrosine** (+2.87)
		Leucine, Isoleucine and Valine Metabolism	4	21	2,2	**N-acetylleucine** (+1.48), N-acetylisoleucine (+1.36), N-acetylvaline (+1.69), alpha-hydroxyisovalerate (-0.76)
		Glutamate Metabolism	2	11	2,1	gamma-aminobutyrate (GABA) (-0.91), **carboxyethyl-GABA** (-0.81)
		Urea cycle; Arginine and Proline Metabolism	3	17	2,1	ornithine (+2.07), citrulline (+1.29), **N-delta-acetylornithine** (+1.58)
		Methionine, Cysteine, SAM, Taurine Metabolism	3	18	2,0	**methionine sulfone** (+2.31), **cystathionine** (+2.27), 2-hydroxybutyrate (+1.16)
		Histidine Metabolism	2	13	1,8	1-methylhistidine (+1.19), **imidazole lactate** (+1.96)
		Lysine Metabolism	2	13	1,8	**2-aminoadipate** (+2.36), 6-oxopiperidine-2-carboxylic acid (+1.36)
		Glutathione Metabolism	1	8	1,5	glutathione, reduced (GSH) (-0.69)
Vitamins	1,67	Vitamin B6 Metabolism	4	4	11,8	**pyridoxamine** (-0.39), **pyridoxamine phosphate** (-0.51), **pyridoxal** (-0.36), pyridoxate (-0.34)
Nucleotide	0,61	Pyrimidine Metabolism, Thymine containing	1	5	2,4	3-aminoisobutyrate (+1.43)
		Purine Metabolism, Xanthine/Inosine containing	1	11	1,1	xanthosine (+1.35)
		Pyrimidine Metabolism, Uracil containing	1	11	1,1	**beta-alanine** (+2.06)
Lipid	0,54	Fatty Acid Metabolism (Acyl Choline)	1	1	11,8	palmitoylcholine (-0.72)
		Endocannabinoid	3	8	4,4	oleoyl ethanolamide (+1.67), stearoyl ethanolamide (+1.50), **linoleoyl ethanolamide** (+2.36)
		Fatty Acid, Dicarboxylate	2	11	2,1	maleate (-0.76), **undecanedioate** (-0.59)
		Fatty Acid Metabolism(Acyl Carnitine)	1	13	0,9	myristoleoylcarnitine (-0.57)
		Sphingolipid Metabolism	1	22	0,5	palmitoyl dihydrosphingomyelin, d18:0/16:0 (-0.75)
		Lysolipid	1	30	0,4	1-linoleoyl-GPA ,18:2 (+1.40)
		Phospholipid Metabolism	1	36	0,3	choline phosphate (-0.85)
Peptide	0,48	Gamma-glutamyl Amino Acid	1	12	1,0	gamma-glutamylglycine (+1.60)
Carbohydrate	0,26	Nucleotide Sugar	1	6	2,0	UDP-N-acetylglucosamine (-0.86)

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N: total number of detected metabolites (566), **n**: total number of metabolites affected by the diet (48), **M**: number of detected metabolites of main pathway, **m**: number of detected metabolites of sub pathway, **K**: number of metabolites affected by diet in main pathway, **k**: number of metabolites affected by diet in sub pathway. The diet effect is indicated as fold changes, positive and negative values indicate higher and lower intensity in low 1-C group than control, respectively (log2(low 1-C/ctl)). Q-values < 0.1 are indicated with bold metabolite name.

Table S4: Complete list of 364 differentially expressed genes in low 1-C embryos compared to control embryos.
Attached separately as excel file

gene_id	gene	locus	sample_1	sample_2	status	value_1	value_2	log2.fold_change.	test_stat	p_value	q_value	significant
ENSDARG00000094023	si:dkeyp-79f4.1	4:23401768-23402535	low1C	ctl	OK	0,536847	0	#NAVN?	NA	0,00015	0,01096	yes
ENSDARG00000082452	U4	17:23328304-23328445	low1C	ctl	OK	0	26,0438	Inf	NA	0,00005	0,00421538	yes
ENSDARG00000098549	U6	4:62994355-62994462	low1C	ctl	OK	0	60,9421	Inf	NA	0,00005	0,00421538	yes
ENSDARG00000083431	U4	25:5213091-5213232	low1C	ctl	OK	0	15,1922	Inf	NA	0,00095	0,0464045	yes
ENSDARG00000062788	irg1l	14:11121037-11124596	low1C	ctl	OK	1,34071	18,992	3,82432	4,89773	0,00005	0,00421538	yes
ENSDARG00000052468	GSK3B (2 of 2)	1:48726128-48765129	low1C	ctl	OK	0,54925	6,25321	3,50906	2,73127	0,00005	0,00421538	yes
ENSDARG00000081108	U5	20:48779134-48779250	low1C	ctl	OK	113,134	1105,32	3,28836	4,57588	0,00005	0,00421538	yes
ENSDARG00000104919	si:ch211-153b23.3	14:11124781-11132075	low1C	ctl	OK	0,232334	2,2227	3,25804	5,27163	0,00005	0,00421538	yes
ENSDARG00000032553	egln3	17:9755991-9780871	low1C	ctl	OK	2,98372	21,5616	2,85328	5,85144	0,00005	0,00421538	yes
ENSDARG00000082424	U4	17:23315576-23315717	low1C	ctl	OK	38,3838	258,38	2,75092	3,38882	0,0001	0,00772511	yes
ENSDARG00000100756	U1	3:9152925-9153074	low1C	ctl	OK	21,8371	130,994	2,58465	2,7727	0,0009	0,0447093	yes
ENSDARG00000075339	ipp	2:3152162-3180676	low1C	ctl	OK	2,00597	11,7599	2,5515	4,84989	0,00005	0,00421538	yes

ENSDARG00000101135	si:dkey-85k7.7	7:21592998-21608008	low1C	ctl	OK	2,0592	11,9117	2,53223	6,75768	0,00005	0,00421538	yes
ENSDARG00000103481	Metazoa_SRP	11:12239840-12240137	low1C	ctl	OK	2,59553	14,9127	2,52244	2,81522	0,00025	0,0166061	yes
ENSDARG00000062562	egln2	15:8359528-8406926	low1C	ctl	OK	0,207955	1,18353	2,50876	4,10033	0,00005	0,00421538	yes
ENSDARG00000084991	SNORA62	3:6151961-6152097	low1C	ctl	OK	32,3272	182,879	2,50007	2,64479	0,00065	0,0365333	yes
ENSDARG00000103556	si:ch211-218g23.6	11:29487411-29489914	low1C	ctl	OK	0,357233	1,9715	2,46436	3,4497	0,00005	0,00421538	yes
ENSDARG00000081192	U5	20:23333589-23333704	low1C	ctl	OK	2693,83	14588,8	2,43713	7,36884	0,00005	0,00421538	yes
ENSDARG00000077169	si:ch211-153b23.4	14:11144483-11150710	low1C	ctl	OK	0,441944	2,35856	2,41597	4,6661	0,00005	0,00421538	yes
ENSDARG00000105097	Metazoa_SRP	11:11400211-11400509	low1C	ctl	OK	4,65037	23,8692	2,35974	3,34461	0,00005	0,00421538	yes
ENSDARG00000101489	U1	4:41438317-41438482	low1C	ctl	OK	20,5643	104,113	2,33993	2,79481	0,0005	0,0292267	yes
ENSDARG00000102181	Metazoa_SRP	11:11477184-11477481	low1C	ctl	OK	2,07019	10,4767	2,33935	2,64741	0,0009	0,0447093	yes
ENSDARG00000091996	si:ch211-117m20.5	5:30014378-30015748	low1C	ctl	OK	0,741185	3,67089	2,30823	3,14501	0,00005	0,00421538	yes
ENSDARG00000089617	RNaseP_nuc	2:37844278-37844581	low1C	ctl	OK	29,3689	145,299	2,30666	5,40585	0,00005	0,00421538	yes
ENSDARG00000086105	Vault	14:2489384-2489489	low1C	ctl	OK	2410,5	11863,1	2,29907	6,16995	0,00005	0,00421538	yes
ENSDARG00000085497	RNaseP_nuc	2:42737319-42737617	low1C	ctl	OK	17,2493	82,4628	2,25721	4,54862	0,00005	0,00421538	yes
ENSDARG00000034211	capn2l	22:26617034-26646980	low1C	ctl	OK	0,221269	1,05428	2,25238	3,28174	0,00005	0,00421538	yes

ENSDARG00000098933	Metazoa_SRP	11:12245901-12632880	low1C	ctl	OK	14,7642	67,6417	2,19581	3,36491	0,00005	0,00421538	yes
ENSDARG00000089313	U4	4:14728262-14737845	low1C	ctl	OK	1470,95	6735,93	2,19513	3,02495	0,00025	0,0166061	yes
ENSDARG00000056376	ankrd37	1:17002488-17005836	low1C	ctl	OK	3,15399	14,3074	2,18151	5,00969	0,00005	0,00421538	yes
ENSDARG00000081029	U5	20:48781039-48781153	low1C	ctl	OK	184,39	833,857	2,17704	3,31457	0,00005	0,00421538	yes
ENSDARG00000099971	5S_rRNA	KN150576.1:8255-8374	low1C	ctl	OK	1199,21	5292,74	2,14193	5,47411	0,00005	0,00421538	yes
ENSDARG00000070286	si:ch211-113a14.19	25:35791636-35792023	low1C	ctl	OK	3,99176	17,4909	2,1315	3,45558	0,00005	0,00421538	yes
ENSDARG00000103491	Metazoa_SRP	11:11463567-11463864	low1C	ctl	OK	16,1807	70,7268	2,12799	4,21956	0,00005	0,00421538	yes
ENSDARG00000090149	HIST4H4 (4 of 5)	25:34540844-34541156	low1C	ctl	OK	4,44299	18,8394	2,08415	2,88508	0,00015	0,01096	yes
ENSDARG00000080562	U6atac	21:6287400-6287528	low1C	ctl	OK	200,252	839,673	2,06801	3,68353	0,00005	0,00421538	yes
ENSDARG00000090273	Vault	14:2488593-2488721	low1C	ctl	OK	2159,99	9042,69	2,06572	3,88504	0,00005	0,00421538	yes
ENSDARG00000087236	HIST1H4B	25:35812927-35813239	low1C	ctl	OK	5,41246	22,1767	2,03469	3,12266	0,00005	0,00421538	yes
ENSDARG00000080410	U11	19:16157463-16157599	low1C	ctl	OK	231,533	929,494	2,00523	4,0563	0,00005	0,00421538	yes
ENSDARG00000087732	Metazoa_SRP	3:30117896-30118194	low1C	ctl	OK	1035,43	4095,31	1,98374	7,20521	0,00005	0,00421538	yes
ENSDARG00000010276	ptgs2b	20:34218938-34224536	low1C	ctl	OK	1,04185	4,01465	1,94612	4,44793	0,00005	0,00421538	yes
ENSDARG00000101840	U3	1:15765587-15765803	low1C	ctl	OK	654,764	2486,55	1,9251	6,78776	0,00005	0,00421538	yes

ENSDARG00000090182	si:dkey-261m9.18	25:34639275-34639662	low1C	ctl	OK	3,11268	11,7947	1,92191	2,84298	0,00005	0,00421538	yes
ENSDARG00000101384	Metazoa_SRP	11:11454269-11454566	low1C	ctl	OK	7,99724	29,9953	1,90716	3,08955	0,00005	0,00421538	yes
ENSDARG00000084089	Vault	15:21316458-21316550	low1C	ctl	OK	387,185	1450,22	1,90518	2,69702	0,0002	0,0139175	yes
ENSDARG00000081270	rn7sk	13:695612-695934	low1C	ctl	OK	436,011	1627,37	1,9001	7,13452	0,00005	0,00421538	yes
ENSDARG00000087472	HIST4H4 (2 of 5)	25:35776073-35776385	low1C	ctl	OK	12,3969	45,6364	1,88021	3,62679	0,00005	0,00421538	yes
ENSDARG00000045230	cox6b1	24:39718205-39722738	low1C	ctl	OK	14,6555	53,917	1,8793	5,61137	0,00005	0,00421538	yes
ENSDARG00000100545	Metazoa_SRP	11:12184380-12184677	low1C	ctl	OK	8,58364	31,0703	1,85588	3,02921	0,00005	0,00421538	yes
ENSDARG00000082538	U5	20:16528206-16528322	low1C	ctl	OK	108,448	390,588	1,84864	2,3808	0,0004	0,0243556	yes
ENSDARG00000082628	U1	10:211781-211947	low1C	ctl	OK	68,1832	243,43	1,83602	3,22143	0,00005	0,00421538	yes
ENSDARG00000084628	SNORA27	20:23182559-23182696	low1C	ctl	OK	175,713	620,119	1,81932	3,40924	0,00005	0,00421538	yes
ENSDARG00000089044	HIST4H4 (3 of 5)	25:35783062-35783374	low1C	ctl	OK	6,94645	24,3983	1,81243	2,9653	0,00005	0,00421538	yes
ENSDARG00000080685	SNORA50	3:55224901-55225036	low1C	ctl	OK	138,163	484,232	1,80932	3,05992	0,00005	0,00421538	yes
ENSDARG00000099668	snopsi28S-3327	19:16124093-16124240	low1C	ctl	OK	198,577	641,406	1,69154	3,45066	0,00005	0,00421538	yes
ENSDARG00000087543	si:dkey-108k21.12	25:34551646-34552140	low1C	ctl	OK	8,61012	27,2833	1,66392	2,69346	0,00005	0,00421538	yes
ENSDARG00000089823	si:ch211-113a14.6	25:35760530-35760842	low1C	ctl	OK	5,80862	17,9307	1,62617	2,46954	0,0004	0,0243556	yes

ENSDARG00000101500	Metazoa_SRP	11:12225287-12225584	low1C	ctl	OK	17,0547	51,7144	1,6004	3,16945	0,00005	0,00421538	yes
ENSDARG00000081931	SNORA16	19:16124945-16125081	low1C	ctl	OK	1095,45	3311,51	1,59597	4,672	0,00005	0,00421538	yes
ENSDARG00000071082	p4ha1b	17:20127566-20147370	low1C	ctl	OK	13,1177	39,5702	1,5929	6,06858	0,00005	0,00421538	yes
ENSDARG00000086604	si:ch211-113a14.25	25:35817417-35817804	low1C	ctl	OK	4,97397	14,7158	1,5649	2,63452	0,00005	0,00421538	yes
ENSDARG00000093071	zgc:110434	7:6226221-6226608	low1C	ctl	OK	5,05388	14,8688	1,55682	2,60214	0,00005	0,00421538	yes
ENSDARG00000091205	si:ch211-113a14.19	7:73632521-73632909	low1C	ctl	OK	3,09419	8,97424	1,53623	2,26509	0,0007	0,0382405	yes
ENSDARG00000099271	5_8S_rRNA	KN149861.1:7180-7336	low1C	ctl	OK	293,29	850,627	1,5362	3,47484	0,00005	0,00421538	yes
ENSDARG00000051775	si:dkey-108k21.15	25:34559683-34560070	low1C	ctl	OK	10,0485	28,7906	1,51862	3,0866	0,00005	0,00421538	yes
ENSDARG00000085485	SNORA26	20:23182968-23183090	low1C	ctl	OK	306,641	875,31	1,51324	2,8596	0,00005	0,00421538	yes
ENSDARG00000070265	si:dkey-261m9.7	25:34628445-34628832	low1C	ctl	OK	10,4697	29,6372	1,50118	3,11221	0,00005	0,00421538	yes
ENSDARG00000086552	zgc:154164	7:6231967-6232548	low1C	ctl	OK	12,4671	34,9665	1,48785	3,24355	0,00005	0,00421538	yes
ENSDARG00000090591	si:dkey-261m9.13	25:34638090-34638402	low1C	ctl	OK	11,9338	33,3894	1,48434	2,78264	0,00005	0,00421538	yes
ENSDARG00000101249	HIST1H4J (2 of 2)	7:5837576-5838171	low1C	ctl	OK	2,36026	6,50212	1,46197	2,42055	0,0003	0,0193412	yes
ENSDARG00000104706	U3	7:7545593-7545807	low1C	ctl	OK	590,628	1624,18	1,45939	3,86776	0,00005	0,00421538	yes
ENSDARG00000075379	si:dkey-261m9.11	25:34635401-34635788	low1C	ctl	OK	7,46727	20,1941	1,43528	2,72679	0,00005	0,00421538	yes

ENSDARG00000 102435	plekhf1	7:45703170-45704590	low1C	ctl	OK	3,19026	8,61876	1,43381	3,40587	0,00005	0,00421 538	yes
ENSDARG00000 089719	si:dkey-108k21.11	25:34549261-34549710	low1C	ctl	OK	10,6629	28,6823	1,42757	3,23291	0,00005	0,00421 538	yes
ENSDARG00000 097103	zgc:165555	25:34560843-34561155	low1C	ctl	OK	9,00982	23,993	1,41304	2,40268	0,0003	0,01934 12	yes
ENSDARG00000 095340	si:ch73-36p18.2	25:35762739-35763150	low1C	ctl	OK	8,3795	22,2038	1,40587	2,83483	0,00005	0,00421 538	yes
ENSDARG00000 051732	si:ch211-113a14.7	25:35761613-35762000	low1C	ctl	OK	7,49166	19,8218	1,40373	2,6321	0,00005	0,00421 538	yes
ENSDARG00000 099123	zgc:110434	7:5835310-5835953	low1C	ctl	OK	5,70632	15,0619	1,40027	3,1118	0,00005	0,00421 538	yes
ENSDARG00000 105169	SCARNA14	15:43993989-43994120	low1C	ctl	OK	184,368	476,807	1,37082	2,34731	0,00015	0,01096	yes
ENSDARG00000 100279	CU457819.2	7:6218466-6219610	low1C	ctl	OK	9,53139	24,6039	1,36813	2,71732	0,00005	0,00421 538	yes
ENSDARG00000 075220	si:ch211-113a14.19	7:73600357-73600745	low1C	ctl	OK	12,224	31,0342	1,34414	2,89384	0,00005	0,00421 538	yes
ENSDARG00000 102172	si:ch73-36p18.2	7:6231080-6231491	low1C	ctl	OK	7,79783	19,7418	1,34011	2,59993	0,00005	0,00421 538	yes
ENSDARG00000 102011	Metazoa_SR P	11:12179130-12179427	low1C	ctl	OK	25,4629	64,428	1,33929	2,95085	0,00005	0,00421 538	yes
ENSDARG00000 097020	si:dkey-261m9.8	25:34629434-34629845	low1C	ctl	OK	11,1079	27,7675	1,32181	2,89169	0,00005	0,00421 538	yes
ENSDARG00000 068928	si:dkey-108k21.26	25:34605350-34605737	low1C	ctl	OK	9,01278	22,5166	1,32095	2,60838	0,00005	0,00421 538	yes
ENSDARG00000 104115	5_8S_rRNA	1:3784199-3784354	low1C	ctl	OK	156,251	388,287	1,31326	2,55504	0,00005	0,00421 538	yes
ENSDARG00000 070287	zgc:173552	25:35799854-35800265	low1C	ctl	OK	5,66969	14,0824	1,31256	2,34509	0,00025	0,01660 61	yes

ENSDARG00000015543	s100a1	16:29450941-29452592	low1C	ctl	OK	1,87139	4,63992	1,30999	2,11546	0,001	0,0481758	yes
ENSDARG00000082850	U8	10:22877819-22877952	low1C	ctl	OK	201,231	491,11	1,28719	2,27151	0,0004	0,0243556	yes
ENSDARG00000041294	noxo1a	3:61924549-61931972	low1C	ctl	OK	4,66896	11,3638	1,28327	4,20379	0,00005	0,00421538	yes
ENSDARG00000071596	neto1l	24:15753297-15992150	low1C	ctl	OK	0,452294	1,09487	1,27543	2,43585	0,00005	0,00421538	yes
ENSDARG00000074260	si:ch211-113a14.25	7:73623443-73623831	low1C	ctl	OK	14,8161	35,6856	1,26818	2,8869	0,00005	0,00421538	yes
ENSDARG00000102946	si:ch73-167f10.1	3:45233846-45237689	low1C	ctl	OK	5,67751	13,659	1,26652	2,20896	0,00045	0,0270247	yes
ENSDARG00000051734	si:ch211-113a14.16	25:35787200-35787587	low1C	ctl	OK	9,49585	22,8395	1,26616	2,52214	0,00005	0,00421538	yes
ENSDARG00000056108	ndufa4	12:9842649-9846483	low1C	ctl	OK	6,74401	16,1869	1,26314	3,89467	0,00005	0,00421538	yes
ENSDARG00000075730	dnph1	13:4089832-4095459	low1C	ctl	OK	4,88463	11,6568	1,25485	2,71079	0,00005	0,00421538	yes
ENSDARG00000051736	zgc:114037	25:35778804-35779286	low1C	ctl	OK	5,91732	13,9568	1,23795	2,43127	0,00015	0,01096	yes
ENSDARG00000078941	wu:fe11b02	25:34650659-34677389	low1C	ctl	OK	6,00583	14,1558	1,23696	3,47238	0,00005	0,00421538	yes
ENSDARG00000091382	HIST4H4 (5 of 5)	7:6221820-6222132	low1C	ctl	OK	17,0723	40,2245	1,23642	2,52053	0,00005	0,00421538	yes
ENSDARG00000100906	zgc:195633	7:5853546-5854332	low1C	ctl	OK	3,07081	7,19945	1,22927	2,46861	0,0001	0,00772511	yes
ENSDARG00000087670	si:dkey-108k21.28	25:34608621-34608933	low1C	ctl	OK	13,9269	32,3592	1,2163	2,34071	0,0001	0,00772511	yes
ENSDARG00000103819	si:ch73-36p18.2	7:5783461-5784061	low1C	ctl	OK	10,1737	23,2683	1,19352	2,97755	0,00005	0,00421538	yes

ENSDARG00000102700	FP236157.1	1:58794190-58798723	low1C	ctl	OK	0,43555	0,98792	1,18156	2,43052	0,0002	0,0139175	yes
ENSDARG00000069135	ppp1r15a	7:71262904-71268268	low1C	ctl	OK	12,3907	28,0017	1,17625	4,00474	0,00005	0,00421538	yes
ENSDARG00000100903	Y_RNA	KN150170.1:35263-35370	low1C	ctl	OK	4224,59	9540,46	1,17525	3,59183	0,00005	0,00421538	yes
ENSDARG00000100210	wu:fe11b02	7:6220676-6221051	low1C	ctl	OK	22,0309	49,6546	1,1724	2,88849	0,00005	0,00421538	yes
ENSDARG00000096596	zgc:173552	25:35815847-35816258	low1C	ctl	OK	12,1467	27,3093	1,16883	2,57981	0,0001	0,00772511	yes
ENSDARG00000099920	si:ch211-113a14.6	7:5846577-5847340	low1C	ctl	OK	3,00732	6,7602	1,16859	2,26715	0,0001	0,00772511	yes
ENSDARG00000099351	igfbp1a	20:6818826-6822741	low1C	ctl	OK	7,33405	16,0646	1,1312	2,9172	0,00005	0,00421538	yes
ENSDARG00000055046	ponzr5	7:22386408-22392814	low1C	ctl	OK	5,5808	12,0298	1,10806	2,56128	0,00005	0,00421538	yes
ENSDARG00000051737	zgc:173552	25:35779903-35780314	low1C	ctl	OK	11,3391	24,2182	1,09478	2,3364	0,0001	0,00772511	yes
ENSDARG00000012987	gpia	25:35408674-35434057	low1C	ctl	OK	14,9885	31,8565	1,08773	3,15768	0,00005	0,00421538	yes
ENSDARG00000042492	si:dkey-250d21.1	10:32122494-32128929	low1C	ctl	OK	0,591321	1,25515	1,08584	1,95031	0,0009	0,0447093	yes
ENSDARG00000091446	HIST2H4A	25:34642428-34642740	low1C	ctl	OK	13,7404	29,1205	1,08361	2,05872	0,0007	0,0382405	yes
ENSDARG00000083480	AC024175.23	MT:950-1019	low1C	ctl	OK	4803,59	10173,8	1,08267	1,98398	0,00085	0,0434566	yes
ENSDARG00000086304	si:ch73-36p18.5	25:34622272-34622659	low1C	ctl	OK	12,8681	27,2514	1,08254	2,31597	0,00005	0,00421538	yes
ENSDARG00000021343	wsb1	15:31281041-31296583	low1C	ctl	OK	24,0955	50,5673	1,06944	3,22542	0,00005	0,00421538	yes

ENSDARG00000 058508	CFAP70	3:12036960-12087556	low1C	ctl	OK	1,46114	3,05588	1,06449	2,70582	0,00005	0,00421 538	yes
ENSDARG00000 086555	HIST4H4 (1 of 5)	7:73634439-73634751	low1C	ctl	OK	18,5025	38,4772	1,05628	2,19787	0,0002	0,01391 75	yes
ENSDARG00000 098875	Metazoa_SR P	11:12203684-12203981	low1C	ctl	OK	42,6125	88,6035	1,05609	2,62582	0,00005	0,00421 538	yes
ENSDARG00000 082753	AC024175.1 7	MT:1019-1971	low1C	ctl	OK	1723,8	3583,48	1,05577	3,87819	0,00005	0,00421 538	yes
ENSDARG00000 074937	si:dkey-261m9.15	25:34646882-34647269	low1C	ctl	OK	9,6133	19,9572	1,0538	2,08189	0,0006	0,03405 05	yes
ENSDARG00000 058206	si:ch211-153b23.5	14:11151485-11154988	low1C	ctl	OK	14,5258	29,4497	1,01963	3,17676	0,00005	0,00421 538	yes
ENSDARG00000 031915	hif1an	13:29822182-29849765	low1C	ctl	OK	13,1071	26,5358	1,0176	2,44416	0,00005	0,00421 538	yes
ENSDARG00000 093195	si:dkey-261m9.6	25:34627131-34627506	low1C	ctl	OK	45,3926	91,455	1,0106	2,97502	0,00005	0,00421 538	yes
ENSDARG00000 097258	si:dkey-108k21.25	25:34604167-34604578	low1C	ctl	OK	9,22917	18,4708	1,00097	1,99526	0,001	0,04817 58	yes
ENSDARG00000 092395	si:ch73-36p18.1	25:34616373-34616988	low1C	ctl	OK	8,94523	17,8513	0,996836	2,42614	0,00005	0,00421 538	yes
ENSDARG00000 104944	HIST2H3A (2 of 2)	25:34615322-34615733	low1C	ctl	OK	11,0479	21,6484	0,970484	2,0692	0,00065	0,03653 33	yes
ENSDARG00000 091770	zgc:173552	7:73594850-73595261	low1C	ctl	OK	20,663	40,3906	0,966969	2,48827	0,00005	0,00421 538	yes
ENSDARG00000 039547	si:ch211-113a14.22	25:35797406-35797781	low1C	ctl	OK	40,8671	79,8683	0,966681	2,80739	0,00005	0,00421 538	yes
ENSDARG00000 097785	si:ch73-36p18.2	25:34634151-34634562	low1C	ctl	OK	18,5287	36,1953	0,966045	2,39505	0,00005	0,00421 538	yes
ENSDARG00000 076930	HIST1H4F	25:34632121-34632433	low1C	ctl	OK	29,0031	56,1435	0,952913	2,22389	0,0002	0,01391 75	yes

ENSDARG00000060113	znf395a	17:16082226-16100451	low1C	ctl	OK	34,2009	66,1609	0,951946	3,45632	0,00005	0,00421538	yes
ENSDARG00000070280	zgc:173652	25:35798681-35799293	low1C	ctl	OK	7,67183	14,6643	0,93466	2,13521	0,00025	0,0166061	yes
ENSDARG00000042210	sema3ab	18:9354097-9470930	low1C	ctl	OK	1,04988	1,99696	0,927575	2,076	0,0007	0,0382405	yes
ENSDARG00000031929	stard14	14:32930072-32937770	low1C	ctl	OK	4,89689	9,21726	0,912473	2,83159	0,00005	0,00421538	yes
ENSDARG00000090893	HIST1H4C	7:5787632-5787944	low1C	ctl	OK	23,3181	43,7821	0,908892	1,96363	0,0008	0,041877	yes
ENSDARG00000019702	aldocb	21:39585911-39616539	low1C	ctl	OK	12,8786	24,1272	0,90568	3,45852	0,00005	0,00421538	yes
ENSDARG00000076839	ftr86	15:545649-555950	low1C	ctl	OK	5,15235	9,5572	0,891358	2,79072	0,00005	0,00421538	yes
ENSDARG00000076129	si:ch73-36p18.3	25:34619243-34619618	low1C	ctl	OK	32,7915	60,5953	0,885884	2,36776	0,00005	0,00421538	yes
ENSDARG00000100697	si:ch73-52f24.4	16:51328511-51349886	low1C	ctl	OK	36,5084	67,3748	0,883981	3,17678	0,00005	0,00421538	yes
ENSDARG00000053087	mthfr	8:47228640-47262086	low1C	ctl	OK	3,9068	7,1398	0,869896	2,53705	0,00005	0,00421538	yes
ENSDARG00000035852	CU469544.1	7:52691499-52692399	low1C	ctl	OK	8,14674	14,8332	0,864536	2,13	0,0005	0,0292267	yes
ENSDARG00000093494	si:ch211-217k17.9	1:51757706-51765926	low1C	ctl	OK	14,3483	25,9265	0,853545	2,66141	0,00005	0,00421538	yes
ENSDARG00000070617	vhl	6:40442385-40457573	low1C	ctl	OK	4,58671	8,21388	0,840603	2,00688	0,00075	0,0399757	yes
ENSDARG00000051770	si:dkey-108k21.19	25:34542495-34542882	low1C	ctl	OK	19,4709	34,8262	0,838859	1,98769	0,00035	0,021842	yes
ENSDARG00000037618	ddit4	12:48356810-48358937	low1C	ctl	OK	55,125	98,2744	0,83411	3,01043	0,00005	0,00421538	yes

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ENSDARG00000036965	rnf24	1:41066428-41116690	low1C	ctl	OK	3,30593	5,8818	0,831202	2,46664	0,00005	0,00421538	yes
ENSDARG00000013335	anxa6	14:50263573-50372929	low1C	ctl	OK	16,8196	29,6845	0,819567	2,59902	0,00005	0,00421538	yes
ENSDARG00000103147	wu:fe11b02	7:6227972-6228347	low1C	ctl	OK	29,6182	51,5553	0,799636	2,09511	0,00035	0,021842	yes
ENSDARG00000060962	btr04	7:15924704-15943187	low1C	ctl	OK	5,3829	9,28738	0,786888	1,94978	0,00085	0,0434566	yes
ENSDARG00000103162	CABZ01046954.1	25:32784668-32790239	low1C	ctl	OK	3,80662	6,49972	0,771866	1,95741	0,00075	0,0399757	yes
ENSDARG00000074667	akt1s1	3:30059576-30069715	low1C	ctl	OK	40,3324	68,5166	0,764515	3,22962	0,00005	0,00421538	yes
ENSDARG00000012499	per1b	7:50547394-50571221	low1C	ctl	OK	2,26439	3,77689	0,738078	2,53501	0,00005	0,00421538	yes
ENSDARG00000071345	mgst2	14:47229403-47232807	low1C	ctl	OK	19,6339	32,3769	0,721617	2,36787	0,0001	0,00772511	yes
ENSDARG00000004748	zgc:100868	3:39331321-39346662	low1C	ctl	OK	8,64695	14,2052	0,716159	2,66711	0,00005	0,00421538	yes
ENSDARG00000089039	zgc:173585	25:34630717-34631309	low1C	ctl	OK	38,0346	62,2254	0,710193	2,38365	0,00005	0,00421538	yes
ENSDARG00000102806	zgc:171759	7:5839127-5839856	low1C	ctl	OK	12,0105	19,3469	0,687805	1,90164	0,00095	0,0464045	yes
ENSDARG00000051778	zgc:194989	25:34601338-34601825	low1C	ctl	OK	30,4689	48,5331	0,671629	1,98471	0,00035	0,021842	yes
ENSDARG00000077587	si:dkey-108k21.24	25:34645564-34645975	low1C	ctl	OK	43,0435	68,4009	0,668219	2,01255	0,0007	0,0382405	yes
ENSDARG00000034203	si:dkey-108k21.9	25:34543986-34544363	low1C	ctl	OK	63,5599	100,52	0,661299	2,06462	0,0004	0,0243556	yes
ENSDARG00000100783	PRTG (2 of 2)	KN150056.1:4017-28432	low1C	ctl	OK	7,65722	12,0677	0,656261	2,11916	0,00045	0,0270247	yes

ENSDARG00000101251	ldha	25:25028200-25099874	low1C	ctl	OK	22,268	34,963	0,650857	1,97725	0,0008	0,041877	yes
ENSDARG00000008363	mcl1b	16:29651325-29656830	low1C	ctl	OK	31,9045	49,9816	0,647636	2,20464	0,0001	0,00772511	yes
ENSDARG00000040284	si:dkey-79d12.5	16:24904085-24917006	low1C	ctl	OK	3,21517	5,01694	0,641914	2,03937	0,00035	0,021842	yes
ENSDARG00000100185	elovl7b	KN150589.1:3099-5397	low1C	ctl	OK	12,5689	19,3368	0,62149	2,11024	0,0004	0,0243556	yes
ENSDARG00000094744	si:ch211-113a14.15	25:35784227-35784648	low1C	ctl	OK	52,3859	80,5664	0,621001	1,97256	0,0005	0,0292267	yes
ENSDARG00000030905	cited2	20:37012263-37014791	low1C	ctl	OK	11,7017	17,5106	0,581508	2,12795	0,00025	0,0166061	yes
ENSDARG00000010085	p4ha2	21:43102683-43136621	low1C	ctl	OK	19,9216	29,4239	0,562657	2,07897	0,00025	0,0166061	yes
ENSDARG00000015822	sesn3	15:35185037-35234766	low1C	ctl	OK	8,83073	12,9404	0,551275	2,11481	0,0002	0,0139175	yes
ENSDARG00000022456	eno1a	23:22729925-22751447	low1C	ctl	OK	58,8905	85,2504	0,533671	1,91561	0,00055	0,0317263	yes
ENSDARG00000011665	aldoaa	3:39425140-39435194	low1C	ctl	OK	345,1	490,856	0,508285	2,12866	0,00035	0,021842	yes
ENSDARG00000043973	znf292b	20:207905-223285	low1C	ctl	OK	7,06148	9,85044	0,480218	1,97757	0,00035	0,021842	yes
ENSDARG00000102808	calr3b	2:55660711-55673493	low1C	ctl	OK	82,6522	61,1771	-0,434062	-1,8691	0,00085	0,0434566	yes
ENSDARG00000044914	suclg2	11:16603543-16840555	low1C	ctl	OK	43,2517	31,3492	-0,464331	-1,94779	0,00095	0,0464045	yes
ENSDARG00000001014	myh9b	3:5177801-5318329	low1C	ctl	OK	73,373	53,0529	-0,467817	-2,01202	0,00035	0,021842	yes
ENSDARG00000101816	col5a3b	1:58545606-58581062	low1C	ctl	OK	26,7759	19,3437	-0,469075	-1,94513	0,00085	0,0434566	yes

ENSDARG00000008697	epas1a	12:25684398-25738189	low1C	ctl	OK	11,6985	8,41662	-0,475013	-1,95049	0,0006	0,0340505	yes
ENSDARG00000042780	apoba	17:30687104-30711003	low1C	ctl	OK	22,0712	15,8232	-0,480121	-2,05623	0,0003	0,0193412	yes
ENSDARG00000059227	fabp1b.1	8:933677-940431	low1C	ctl	OK	1676,01	1195,29	-0,487671	-2,09021	0,0002	0,0139175	yes
ENSDARG00000062054	cpt1ab	25:23494441-23546729	low1C	ctl	OK	13,3451	9,44604	-0,498528	-1,93038	0,0007	0,0382405	yes
ENSDARG00000098584	ndufa13	KN149883.1:2234-5251	low1C	ctl	OK	406,434	286,885	-0,502549	-1,93905	0,00055	0,0317263	yes
ENSDARG00000012002	slc38a7	7:51520670-51539701	low1C	ctl	OK	19,261	13,5553	-0,506828	-1,97617	0,0006	0,0340505	yes
ENSDARG00000074656	ctssb.1	16:29574509-29578811	low1C	ctl	OK	112,247	78,8843	-0,508866	-2,11685	0,0002	0,0139175	yes
ENSDARG00000101334	ctsc	15:43682885-43704485	low1C	ctl	OK	80,0405	55,5588	-0,526714	-2,25314	0,0001	0,00772511	yes
ENSDARG00000076838	apom	2:42379322-42385143	low1C	ctl	OK	85,5814	59,3823	-0,527263	-2,05363	0,00085	0,0434566	yes
ENSDARG00000036848	slc43a2a	15:28435946-28475836	low1C	ctl	OK	28,9225	20,0518	-0,528458	-2,12587	0,00015	0,0109 6	yes
ENSDARG00000008637	mtp	1:11419100-11439741	low1C	ctl	OK	25,5488	17,6996	-0,52954	-1,90501	0,00095	0,0464045	yes
ENSDARG00000090850	serpina1l	20:10550784-10553957	low1C	ctl	OK	46,0278	31,8004	-0,53346	-2,14716	0,00035	0,021842	yes
ENSDARG00000093549	sepp1a	8:31426219-31434102	low1C	ctl	OK	161,647	111,37	-0,537488	-2,1831	0,00005	0,00421538	yes
ENSDARG00000103271	pla2g15	25:13592659-13607426	low1C	ctl	OK	27,1849	18,6817	-0,541183	-2,1619	0,0003	0,0193412	yes
ENSDARG00000099301	CDC37	KN149781.1:4958-8644	low1C	ctl	OK	310,37	213,253	-0,541425	-2,33776	0,0002	0,0139175	yes

ENSDARG00000045516	itih2	4:25192373-25226770	low1C	ctl	OK	25,4969	17,4664	-0,545736	-1,98864	0,0007	0,0382405	yes
ENSDARG00000036893	f13a1b	7:8024804-8098285	low1C	ctl	OK	15,9014	10,839	-0,55292	-2,06521	0,0003	0,0193412	yes
ENSDARG00000061383	serpinf2b	15:26608142-26619776	low1C	ctl	OK	13,9499	9,49966	-0,554306	-1,8815	0,001	0,0481758	yes
ENSDARG00000036074	cebpa	7:37813727-37816607	low1C	ctl	OK	17,4648	11,8888	-0,554841	-2,14541	0,00035	0,021842	yes
ENSDARG00000056640	rpia	13:13799270-13813296	low1C	ctl	OK	69,7565	47,4777	-0,555078	-1,87262	0,0008	0,041877	yes
ENSDARG00000088439	gm2a	14:25927109-25930546	low1C	ctl	OK	37,2425	25,2348	-0,561534	-2,05785	0,0002	0,0139175	yes
ENSDARG00000016745	slc35f6	20:26005108-26011553	low1C	ctl	OK	42,4158	28,6491	-0,566113	-2,33874	0,00005	0,00421538	yes
ENSDARG00000003570	hsp90b1	4:9835548-9842920	low1C	ctl	OK	48,5198	32,719	-0,568446	-2,37214	0,00005	0,00421538	yes
ENSDARG00000018529	lipf	12:17036767-17079154	low1C	ctl	OK	14,9567	10,0834	-0,568813	-1,96969	0,00075	0,0399757	yes
ENSDARG00000101239	hsd17b4	8:190534-214498	low1C	ctl	OK	8,60588	5,78275	-0,573569	-1,95663	0,0009	0,0447093	yes
ENSDARG00000090912	npc2	17:43031044-43041345	low1C	ctl	OK	312,112	209,711	-0,573663	-2,47342	0,00005	0,00421538	yes
ENSDARG00000098645	rgn	6:8895449-8904447	low1C	ctl	OK	14,088	9,39852	-0,583962	-1,91649	0,0009	0,0447093	yes
ENSDARG00000039459	qsox1	8:14465904-14517080	low1C	ctl	OK	8,2131	5,46312	-0,588201	-1,98653	0,0005	0,0292267	yes
ENSDARG00000042010	PKLR	16:54629440-54634651	low1C	ctl	OK	18,2168	12,1114	-0,588904	-2,04895	0,00045	0,0270247	yes
ENSDARG00000037307	gnpda1	14:23411966-23416458	low1C	ctl	OK	24,9583	16,5034	-0,596758	-2,01853	0,00055	0,0317263	yes

ENSDARG00000 032976	cmlc1	5:63486420-63487216	low1C	ctl	OK	57,5792	37,9796	-0,600323	-2,20435	0,0002	0,01391 75	yes
ENSDARG00000 012729	hcls1	4:22579351-22590686	low1C	ctl	OK	5,77728	3,80711	-0,601696	-1,83482	0,001	0,04817 58	yes
ENSDARG00000 105142	tcirg1b	14:16471654-16504836	low1C	ctl	OK	14,1276	9,29065	-0,60467	-2,29354	0,00005	0,00421 538	yes
ENSDARG00000 023082	krt1-19d	19:5408166-5416298	low1C	ctl	OK	26,3392	17,3202	-0,604763	-2,15658	0,0004	0,02435 56	yes
ENSDARG00000 003931	cndp2	19:21216736-21238776	low1C	ctl	OK	12,6578	8,32284	-0,604883	-2,08788	0,0003	0,01934 12	yes
ENSDARG00000 075016	apobb.2	20:53634247-53664835	low1C	ctl	OK	8,37931	5,5062	-0,605774	-2,43677	0,00005	0,00421 538	yes
ENSDARG00000 100589	ZNF830	KN150544.1:0-282	low1C	ctl	OK	227,396	149,338	-0,606623	-2,00609	0,00025	0,01660 61	yes
ENSDARG00000 103347	cyp2aa3	23:42516640-42528380	low1C	ctl	OK	23,4633	15,3815	-0,60921	-2,23865	0,00015	0,01096	yes
ENSDARG00000 063518	CPN2	2:50629-53978	low1C	ctl	OK	15,1543	9,91989	-0,611336	-2,21577	0,00015	0,01096	yes
ENSDARG00000 090286	serpina1	20:10556859-10560171	low1C	ctl	OK	89,4232	57,8653	-0,62795	-2,45919	0,00005	0,00421 538	yes
ENSDARG00000 099389	cdo1	KN149707.1:3860-5958	low1C	ctl	OK	152,655	98,7188	-0,628881	-2,47779	0,00005	0,00421 538	yes
ENSDARG00000 053973	fetub	22:37934446-37944777	low1C	ctl	OK	970,509	627,092	-0,630064	-2,49604	0,00005	0,00421 538	yes
ENSDARG00000 099200	zgc:123103	19:42978261-42981901	low1C	ctl	OK	59,2257	37,9883	-0,640666	-2,52319	0,00005	0,00421 538	yes
ENSDARG00000 042684	serpinc1	22:15995940-16001921	low1C	ctl	OK	33,3716	21,2769	-0,64933	-2,63956	0,00005	0,00421 538	yes
ENSDARG00000 093702	si:dkey-126g1.9	23:32007051-32014381	low1C	ctl	OK	88,9135	56,5944	-0,651742	-2,68291	0,00005	0,00421 538	yes

ENSDARG00000015866	apoa2	16:24063945-24065322	low1C	ctl	OK	1613,07	1022,26	-0,658048	-2,76871	0,00005	0,00421538	yes
ENSDARG00000079501	si:ch211-149I1.2	1:49031535-49054672	low1C	ctl	OK	5,92909	3,72392	-0,670989	-2,00922	0,0005	0,0292267	yes
ENSDARG00000094426	her4.2	23:21528600-21534589	low1C	ctl	OK	12,4091	7,79203	-0,671324	-1,94793	0,0005	0,0292267	yes
ENSDARG00000069583	CNDP1	16:55296447-55320715	low1C	ctl	OK	99,3441	61,552	-0,690627	-2,41782	0,00005	0,00421538	yes
ENSDARG00000044125	txn	7:24086073-24093669	low1C	ctl	OK	164,179	101,674	-0,691309	-2,76479	0,00005	0,00421538	yes
ENSDARG00000039605	mat1a	13:18497927-18506252	low1C	ctl	OK	68,2073	42,1458	-0,694539	-2,96607	0,00005	0,00421538	yes
ENSDARG00000044685	nr0b2a	16:55167504-55172525	low1C	ctl	OK	25,5447	15,7168	-0,700714	-2,82	0,00005	0,00421538	yes
ENSDARG00000102241	zgc:136410	21:44510840-44518121	low1C	ctl	OK	244,221	150,241	-0,700912	-2,99312	0,00005	0,00421538	yes
ENSDARG00000043843	akap7	20:2402636-2462287	low1C	ctl	OK	47,721	29,3512	-0,701205	-2,18111	0,00025	0,0166061	yes
ENSDARG00000102207	CABZ01102578.1	KN149735.1:21-4011	low1C	ctl	OK	49,3629	30,3568	-0,701407	-2,56606	0,00005	0,00421538	yes
ENSDARG00000102356	scp2b	23:41935798-41959885	low1C	ctl	OK	15,2217	9,35947	-0,701635	-2,05842	0,00075	0,0399757	yes
ENSDARG00000056151	tyrp1b	1:18639899-18653111	low1C	ctl	OK	12,4583	7,62223	-0,708821	-2,17012	0,0003	0,0193412	yes
ENSDARG00000020143	pah	4:17402703-17420557	low1C	ctl	OK	9,93856	6,07977	-0,70902	-2,28832	0,0001	0,00772511	yes
ENSDARG00000007421	ftcd	22:12746099-12761755	low1C	ctl	OK	11,4088	6,85559	-0,734794	-2,31605	0,00005	0,00421538	yes
ENSDARG00000040295	apoeb	16:24045711-24048429	low1C	ctl	OK	2292,66	1373,62	-0,739041	-2,58954	0,00005	0,00421538	yes

ENSDARG00000019713	oatx	21:44088982-44109518	low1C	ctl	OK	6,18077	3,69922	-0,740565	-2,29352	0,0002	0,0139175	yes
ENSDARG00000043154	ucp2	10:36706162-36738764	low1C	ctl	OK	159,602	95,216	-0,745204	-3,11804	0,00005	0,00421538	yes
ENSDARG00000026109	slc48a1b	6:38898621-38904962	low1C	ctl	OK	9,87869	5,86775	-0,751513	-1,99431	0,00075	0,0399757	yes
ENSDARG00000009018	rhbg	16:29331172-29342541	low1C	ctl	OK	7,91003	4,68476	-0,755707	-2,6598	0,00005	0,00421538	yes
ENSDARG00000008931	renbp	8:36998539-37011466	low1C	ctl	OK	12,3043	7,25395	-0,762329	-2,53027	0,00005	0,00421538	yes
ENSDARG00000004296	ambp	10:10843325-10865634	low1C	ctl	OK	59,7223	35,0215	-0,770027	-2,22904	0,0001	0,00772511	yes
ENSDARG00000098586	zgc:194887	17:443532-449054	low1C	ctl	OK	12,3761	7,2385	-0,773793	-2,02017	0,00095	0,0464045	yes
ENSDARG00000021004	c5	5:62764793-62816203	low1C	ctl	OK	7,10854	4,13541	-0,781524	-2,84672	0,00005	0,00421538	yes
ENSDARG00000038668	gbp1	2:42171489-42185905	low1C	ctl	OK	4,46901	2,59503	-0,784203	-2,04376	0,0004	0,0243556	yes
ENSDARG00000011701	ctsll	5:23802076-23805867	low1C	ctl	OK	98,5437	57,0847	-0,787659	-3,22561	0,00005	0,00421538	yes
ENSDARG00000058102	sardh	10:10429089-10603580	low1C	ctl	OK	15,7799	9,09355	-0,79517	-3,02206	0,00005	0,00421538	yes
ENSDARG00000007988	masp2	23:28843683-28869616	low1C	ctl	OK	3,20656	1,83667	-0,803938	-1,91301	0,0009	0,0447093	yes
ENSDARG00000032862	ugt5g1	7:22420803-22425829	low1C	ctl	OK	2,92023	1,67056	-0,805751	-1,96419	0,00085	0,0434566	yes
ENSDARG00000100917	slc30a8	19:46751129-46769977	low1C	ctl	OK	3,53564	2,01954	-0,807942	-2,35603	0,00005	0,00421538	yes
ENSDARG00000104207	pcyt1bb	21:40595567-40607603	low1C	ctl	OK	4,38927	2,45944	-0,83565	-2,02171	0,0007	0,0382405	yes

ENSDARG00000041595	ces3	18:17429187-17437240	low1C	ctl	OK	4,79724	2,68507	-0,837244	-2,0696	0,00025	0,0166061	yes
ENSDARG00000036041	f2	7:38479612-38488900	low1C	ctl	OK	22,7069	12,6385	-0,845303	-2,56315	0,00005	0,00421538	yes
ENSDARG00000019986	grhprb	1:19142865-19152602	low1C	ctl	OK	25,1699	13,9388	-0,852597	-2,79985	0,00005	0,00421538	yes
ENSDARG00000018264	trim101	23:17528347-17543803	low1C	ctl	OK	4,61844	2,54509	-0,859691	-2,10414	0,00025	0,0166061	yes
ENSDARG00000039516	c8a	2:2374645-2401596	low1C	ctl	OK	7,39509	4,05234	-0,867813	-1,93952	0,00085	0,0434566	yes
ENSDARG00000015662	pla2g12b	13:4543111-4555009	low1C	ctl	OK	220,906	120,727	-0,871686	-2,82078	0,00005	0,00421538	yes
ENSDARG00000017261	gdpd1	15:16950173-16958853	low1C	ctl	OK	21,78	11,9011	-0,871915	-2,31284	0,00005	0,00421538	yes
ENSDARG00000039099	zgc:113413	7:8127066-8135474	low1C	ctl	OK	11,5288	6,28308	-0,875697	-2,39331	0,0001	0,00772511	yes
ENSDARG00000102456	cfhl4	22:23587102-23598808	low1C	ctl	OK	27,0964	14,7468	-0,877695	-3,06366	0,00005	0,00421538	yes
ENSDARG00000074362	FUT9 (10 of 14)	3:51837689-51858158	low1C	ctl	OK	1,36298	0,741137	-0,87895	-2,00294	0,00055	0,0317263	yes
ENSDARG00000021208	serpind1	8:1736412-1833109	low1C	ctl	OK	2,63123	1,42265	-0,887152	-2,03363	0,0007	0,0382405	yes
ENSDARG00000043180	gpd1b	22:6966199-6977128	low1C	ctl	OK	38,5165	20,8083	-0,888317	-3,35176	0,00005	0,00421538	yes
ENSDARG00000042379	TMEM120A (2 of 2)	15:16937667-16948890	low1C	ctl	OK	3,25067	1,74493	-0,897569	-1,96797	0,001	0,0481758	yes
ENSDARG00000091465	si:dkey-66a8.7	6:37463894-37482284	low1C	ctl	OK	8,37453	4,4659	-0,907057	-2,06011	0,00075	0,0399757	yes
ENSDARG00000101160	apoa4a	19:10927027-10931909	low1C	ctl	OK	57,2388	30,5163	-0,907416	-3,35444	0,00005	0,00421538	yes

ENSDARG00000012640	cideb	7:23744357-23751183	low1C	ctl	OK	10,2017	5,4256	-0,910952	-2,42492	0,00005	0,00421538	yes
ENSDARG00000053831	vtnb	21:39022453-39036049	low1C	ctl	OK	15,824	8,3232	-0,926906	-3,11322	0,00005	0,00421538	yes
ENSDARG00000012694	c3a.1	1:55460925-55507680	low1C	ctl	OK	38,0099	19,9805	-0,927787	-3,88562	0,00005	0,00421538	yes
ENSDARG00000028396	fkbp5	6:41098521-41118517	low1C	ctl	OK	2,00912	1,05375	-0,931027	-1,9438	0,0009	0,0447093	yes
ENSDARG00000027529	hmox1a	3:25880610-25886721	low1C	ctl	OK	31,1266	16,2143	-0,940885	-3,43317	0,00005	0,00421538	yes
ENSDARG00000055278	cfb	21:27379588-27394702	low1C	ctl	OK	11,3318	5,83059	-0,958665	-3,16588	0,00005	0,00421538	yes
ENSDARG00000069828	ABHD12B (1 of 2)	13:9546520-9554556	low1C	ctl	OK	5,8994	3,00715	-0,972168	-2,25808	0,00015	0,01096	yes
ENSDARG00000055504	CD68	7:19231023-19239661	low1C	ctl	OK	42,9579	21,8613	-0,974547	-3,80529	0,00005	0,00421538	yes
ENSDARG00000021250	slc25a48	14:25293357-25301757	low1C	ctl	OK	7,05456	3,56837	-0,98329	-2,48427	0,00005	0,00421538	yes
ENSDARG00000045299	vmo1b	21:1592356-1600152	low1C	ctl	OK	8,92733	4,43559	-1,0091	-2,63154	0,00005	0,00421538	yes
ENSDARG00000036966	hsd3b7	3:32612231-32646536	low1C	ctl	OK	4,56532	2,25638	-1,0167	-2,48412	0,0001	0,00772511	yes
ENSDARG00000016793	crybb1l2	1:43720616-43745614	low1C	ctl	OK	11,1663	5,50707	-1,0198	-2,54998	0,0001	0,00772511	yes
ENSDARG00000102594	zgc:194627	22:5048518-5057287	low1C	ctl	OK	5,7333	2,82455	-1,02135	-2,17409	0,00025	0,0166061	yes
ENSDARG00000023111	plg	20:42791377-42805774	low1C	ctl	OK	16,3043	8,00017	-1,02715	-3,80501	0,00005	0,00421538	yes
ENSDARG00000086998	NNMT	11:11991086-11996233	low1C	ctl	OK	3,21547	1,57418	-1,03043	-2,53945	0,00005	0,00421538	yes

ENSDARG00000070038	rbp2a	15:5815606-5827155	low1C	ctl	OK	25,941	12,6644	-1,03445	-2,82306	0,00005	0,00421538	yes
ENSDARG00000068883	tspan13a	15:34734245-34741801	low1C	ctl	OK	1,90561	0,92527	-1,0423	-2,53098	0,00005	0,00421538	yes
ENSDARG00000040298	apoa4b.1	16:23999037-24033538	low1C	ctl	OK	459,546	222,625	-1,04559	-3,5463	0,00005	0,00421538	yes
ENSDARG00000090637	myh6	20:53772084-53778019	low1C	ctl	OK	1,1424	0,547594	-1,06089	-2,51168	0,00005	0,00421538	yes
ENSDARG00000036171	rnasel3	14:38313985-38316149	low1C	ctl	OK	8,43185	4,01492	-1,07048	-2,57261	0,00005	0,00421538	yes
ENSDARG00000103875	CABZ01048402.2	KN149946.1:4414-12640	low1C	ctl	OK	10,4874	4,98327	-1,07349	-3,17466	0,00005	0,00421538	yes
ENSDARG00000100442	cfh	22:23615378-23721721	low1C	ctl	OK	15,0285	7,12577	-1,07659	-3,42888	0,00005	0,00421538	yes
ENSDARG00000006220	ugt1ab	9:9998613-10032338	low1C	ctl	OK	2,541	1,176	-1,11151	-2,07416	0,0002	0,0139175	yes
ENSDARG00000090722	C20H6orf58 (1 of 2)	20:1391366-1400179	low1C	ctl	OK	9,92906	4,57242	-1,1187	-2,99203	0,00005	0,00421538	yes
ENSDARG00000019260	dhrs9	9:49008552-49038903	low1C	ctl	OK	4,13832	1,90015	-1,12293	-2,37763	0,00015	0,01096	yes
ENSDARG00000035257	akr1a1a	5:40920885-40931476	low1C	ctl	OK	6,89005	3,16205	-1,12366	-2,56243	0,00005	0,00421538	yes
ENSDARG00000020741	fga	1:9379389-9387428	low1C	ctl	OK	61,1514	28,0576	-1,124	-3,75197	0,00005	0,00421538	yes
ENSDARG00000103800	prkar1b	3:12853207-12927273	low1C	ctl	OK	2,67944	1,22466	-1,12955	-2,09845	0,00075	0,0399757	yes
ENSDARG00000070394	uroc1	6:40041997-40061183	low1C	ctl	OK	2,36611	1,06975	-1,14524	-2,56455	0,00005	0,00421538	yes
ENSDARG00000070168	sod3a	7:71096759-71105633	low1C	ctl	OK	12,8364	5,76171	-1,15567	-3,17641	0,00005	0,00421538	yes

ENSDARG00000097606	tmem82	23:24558931-24562155	low1C	ctl	OK	2,37724	1,0541	-1,17327	-1,96684	0,0009	0,0447093	yes
ENSDARG00000030508	CCDC134 (1 of 2)	3:662600-671629	low1C	ctl	OK	13,1682	5,83316	-1,17471	-3,05492	0,00005	0,00421538	yes
ENSDARG00000078918	comtd1	13:17541534-17554353	low1C	ctl	OK	10,0345	4,39039	-1,19255	-1,98241	0,00095	0,0464045	yes
ENSDARG00000070918	FETUB (2 of 2)	22:38276173-38287021	low1C	ctl	OK	4,13355	1,80788	-1,19308	-2,36985	0,00005	0,00421538	yes
ENSDARG00000001975	hsd11b2	7:34840574-34854897	low1C	ctl	OK	1,54465	0,657752	-1,23167	-2,38257	0,0001	0,00772511	yes
ENSDARG00000104576	PPP1R3G	24:2827465-2830305	low1C	ctl	OK	4,53467	1,92605	-1,23535	-3,34052	0,00005	0,00421538	yes
ENSDARG00000062483	lyve1b	18:16755246-16758322	low1C	ctl	OK	3,18741	1,33223	-1,25854	-2,06028	0,0008	0,041877	yes
ENSDARG00000002764	miox	18:6773232-6783325	low1C	ctl	OK	5,72136	2,38499	-1,26237	-2,89301	0,00005	0,00421538	yes
ENSDARG00000078068	abcg4b	15:23552464-23572949	low1C	ctl	OK	1,12579	0,466813	-1,27002	-1,7488	0,0009	0,0447093	yes
ENSDARG00000034063	CABZ01068208.1	17:53294819-53301747	low1C	ctl	OK	8,26714	3,37669	-1,29178	-3,61965	0,00005	0,00421538	yes
ENSDARG00000061303	oca2	6:37881001-38060286	low1C	ctl	OK	0,595362	0,240487	-1,30781	-2,03503	0,0003	0,0193412	yes
ENSDARG00000058005	hgd	24:23814312-23825872	low1C	ctl	OK	3,1484	1,26771	-1,31239	-2,61482	0,00005	0,00421538	yes
ENSDARG00000068114	f11r.2	5:29220112-29225693	low1C	ctl	OK	3,18278	1,26905	-1,32653	-2,55111	0,00005	0,00421538	yes
ENSDARG00000104702	cat	25:7318705-7328383	low1C	ctl	OK	8,61644	3,36905	-1,35475	-3,86358	0,00005	0,00421538	yes
ENSDARG00000043719	c3a.6	1:55360637-55410849	low1C	ctl	OK	2,29302	0,896012	-1,35566	-2,84294	0,00005	0,00421538	yes

ENSDARG00000055036	itih3a	11:3594938-3609829	low1C	ctl	OK	6,79873	2,60843	-1,38208	-1,98978	0,00085	0,0434566	yes
ENSDARG00000080001	si:dkey-208m12.2	22:27489647-27499674	low1C	ctl	OK	0,63409	0,239511	-1,4046	-2,4085	0,00015	0,01096	yes
ENSDARG00000019772	si:ch1073-280e3.1	15:517687-535747	low1C	ctl	OK	1,14719	0,429375	-1,41779	-2,28102	0,00015	0,01096	yes
ENSDARG00000008969	fgb	1:9367651-9375385	low1C	ctl	OK	54,0108	20,1926	-1,41942	-4,86742	0,00005	0,00421538	yes
ENSDARG00000019532	fads2	25:4007595-4023060	low1C	ctl	OK	9,36146	3,37539	-1,47168	-3,71563	0,00005	0,00421538	yes
ENSDARG00000069524	si:dkey-30c15.13	18:7436733-7441140	low1C	ctl	OK	2,86276	1,02679	-1,47927	-2,1668	0,00065	0,0365333	yes
ENSDARG00000095556	si:dkey-238c7.12	18:7607071-7609022	low1C	ctl	OK	317,685	112,742	-1,49458	-5,82955	0,00005	0,00421538	yes
ENSDARG00000093774	rbp2b	2:39050426-39052199	low1C	ctl	OK	7,35546	2,60887	-1,49539	-3,29748	0,00005	0,00421538	yes
ENSDARG00000037281	fgg	1:24978969-24988554	low1C	ctl	OK	39,5484	13,9832	-1,49992	-5,40795	0,00005	0,00421538	yes
ENSDARG00000038405	zgc:153921	3:1236409-1293074	low1C	ctl	OK	3,43906	1,20714	-1,51042	-2,3636	0,00015	0,01096	yes
ENSDARG00000041623	mt2	18:17545560-17546913	low1C	ctl	OK	148,921	52,0557	-1,51642	-5,39305	0,00005	0,00421538	yes
ENSDARG00000058053	serping1	8:13922949-14014644	low1C	ctl	OK	5,97046	1,99858	-1,57887	-2,18677	0,0008	0,041877	yes
ENSDARG00000098642	PRKAR1B	3:12966603-12987150	low1C	ctl	OK	4,62288	1,53756	-1,58815	-2,16312	0,0005	0,0292267	yes
ENSDARG00000055705	f5	9:34317820-34338811	low1C	ctl	OK	0,847765	0,279409	-1,60129	-3,23789	0,00005	0,00421538	yes
ENSDARG00000051912	HPX (2 of 2)	16:2883517-2903388	low1C	ctl	OK	5,81375	1,85502	-1,64803	-3,59037	0,00005	0,00421538	yes

ENSDARG00000 053448	si:ch211-251f6.6	10:8086654-8121037	low1C	ctl	OK	8,40464	2,67507	-1,65161	-2,90939	0,00005	0,00421 538	yes
ENSDARG00000 059651	cidec	6:19142441-19151867	low1C	ctl	OK	1,35284	0,4201	-1,68719	-2,38887	0,00025	0,01660 61	yes
ENSDARG00000 104572	si:dkey-35h6.1	14:12730545-12742341	low1C	ctl	OK	0,82682 5	0,25498 3	-1,69718	-2,89777	0,0001	0,00772 511	yes
ENSDARG00000 023151	ucp1	1:52687139-52869865	low1C	ctl	OK	32,2487	9,70759	-1,73206	-2,19391	0,0009	0,04470 93	yes
ENSDARG00000 102722	itih3b	11:36910727-36932766	low1C	ctl	OK	1,95999	0,58917 9	-1,73407	-3,02909	0,00005	0,00421 538	yes
ENSDARG00000 095751	C20H6orf58 (2 of 2)	20:1377737-1385482	low1C	ctl	OK	5,00379	1,43982	-1,79714	-3,57317	0,00005	0,00421 538	yes
ENSDARG00000 104329	NOTCH4	8:19482208-19488256	low1C	ctl	OK	2,09065	0,58317 8	-1,84194	-2,45134	0,0001	0,00772 511	yes
ENSDARG00000 033227	lect2l	14:36545209-36546752	low1C	ctl	OK	4,88051	1,32495	-1,88109	-2,92566	0,00005	0,00421 538	yes
ENSDARG00000 057498	habp2	12:31598336-31605164	low1C	ctl	OK	1,25656	0,33926 7	-1,88899	-2,68412	0,0001	0,00772 511	yes
ENSDARG00000 004199	spam1	25:27092796-27121034	low1C	ctl	OK	2,0474	0,51656 9	-1,98676	-3,07535	0,00005	0,00421 538	yes
ENSDARG00000 069630	tat	18:13194009-13210998	low1C	ctl	OK	1,3746	0,34174 9	-2,008	-2,954	0,00005	0,00421 538	yes
ENSDARG00000 029230	pnp4b	16:36854039-36880749	low1C	ctl	OK	6,00324	1,46967	-2,03025	-2,93947	0,00005	0,00421 538	yes
ENSDARG00000 005616	bfb	21:27401171-27407300	low1C	ctl	OK	1,64486	0,39962 1	-2,04126	-2,20636	0,0006	0,03405 05	yes
ENSDARG00000 079589	si:dkeyp-73d8.6	2:32638458-32641359	low1C	ctl	OK	3,96679	0,96128 9	-2,04493	-3,01373	0,00005	0,00421 538	yes
ENSDARG00000 070892	si:ch211-262h13.5	22:38825803-38832858	low1C	ctl	OK	1,83778	0,44473 2	-2,04696	-1,99969	0,0007	0,03824 05	yes

ENSDARG00000057844	zgc:171470	1:56783698-56787039	low1C	ctl	OK	0,724686	0,174454	-2,05451	-2,30173	0,0008	0,041877	yes
ENSDARG00000036776	aldh8a1	23:31826072-31837222	low1C	ctl	OK	3,82032	0,909964	-2,06981	-3,99034	0,00005	0,00421538	yes
ENSDARG00000069293	ahsg2	2:10336524-10343921	low1C	ctl	OK	4,26364	0,988052	-2,10943	-3,73366	0,00005	0,00421538	yes
ENSDARG00000070960	si:ch211-288g17.4	19:9425245-9445417	low1C	ctl	OK	2,13304	0,482005	-2,14579	-1,52113	0,0005	0,0292267	yes
ENSDARG00000017444	hal	25:7830047-7850402	low1C	ctl	OK	0,542073	0,121139	-2,16182	-2,28282	0,00075	0,0399757	yes
ENSDARG00000075614	zgc:193682	16:24060897-24062096	low1C	ctl	OK	2,90979	0,649827	-2,16279	-2,1112	0,00045	0,0270247	yes
ENSDARG00000076043	si:dkeyp-73d8.9	2:32659119-32660520	low1C	ctl	OK	3,67177	0,721929	-2,34655	-2,6387	0,00005	0,00421538	yes
ENSDARG00000003523	itln3	14:16039349-16046556	low1C	ctl	OK	2,12752	0,418031	-2,34749	-2,38528	0,00015	0,01096	yes
ENSDARG00000026764	ahsg1	22:37920795-37927972	low1C	ctl	OK	13,3256	2,37475	-2,48835	-5,18307	0,00005	0,00421538	yes
ENSDARG00000089310	gc	5:45077667-45124680	low1C	ctl	OK	1,9247	0,337728	-2,5107	-3,01755	0,00005	0,00421538	yes
ENSDARG00000036833	upp2	9:16160545-16171735	low1C	ctl	OK	1,18104	0,207058	-2,51195	-2,82978	0,00005	0,00421538	yes
ENSDARG00000012609	hpx	9:33029367-33046387	low1C	ctl	OK	11,8579	2,00551	-2,56381	-4,82225	0,00005	0,00421538	yes
ENSDARG00000033662	scd	12:48407392-48421350	low1C	ctl	OK	2,31884	0,385292	-2,58938	-3,79447	0,00005	0,00421538	yes
ENSDARG00000043196	rnasel2	22:6263716-6264903	low1C	ctl	OK	6,0136	0,959942	-2,64721	-3,9494	0,00005	0,00421538	yes
ENSDARG00000019492	shbg	12:22389795-22403169	low1C	ctl	OK	3,11543	0,464251	-2,74646	-4,0449	0,00005	0,00421538	yes

Gene ID	Gene	Location										
ENSDARG00000018351	hpda	5:2544819-2582076	low1C	ctl	OK	16,4833	2,3534	-2,80819	-6,92359	0,00005	0,00421538	yes
ENSDARG00000071216	ENDOD1 (5 of 11)	19:3359896-3363097	low1C	ctl	OK	1,02493	0,143916	-2,83223	-2,98292	0,0006	0,0340505	yes
ENSDARG00000071076	ldhbb	25:3201140-3210843	low1C	ctl	OK	11,5261	1,60021	-2,84857	-4,07473	0,00005	0,00421538	yes
ENSDARG00000092858	si:ch1073-126c3.2	13:20404176-20409808	low1C	ctl	OK	2,42633	0,327437	-2,88949	-2,7914	0,0001	0,00772511	yes
ENSDARG00000038439	fabp10a	16:52626256-52631239	low1C	ctl	OK	452,537	53,2093	-3,08829	-6,06516	0,00005	0,00421538	yes
ENSDARG00000019294	cbln8	7:73231372-73233805	low1C	ctl	OK	22,2043	2,3374	-3,24786	-6,33203	0,00005	0,00421538	yes
ENSDARG00000098898	si:dkey-20i20.15	22:1474765-1476208	low1C	ctl	OK	192,988	0,786666	-7,93855	-4,31097	0,00005	0,00421538	yes

Table S5: Complete list of significantly altered Gene Ontologies for biological processes, molecular function and cellular components for differentially expressed genes in low 1-C compared to control F_1 embryos. The significant GO terms with altered genes, p-value and Benjamini.

Biological process			Genes		P-value	Benjamini
Inflammatory and immune response			29			
1	GOTERM_BP_FAT	GO:0009611~response to wounding	25	F11R, MASP2, C3, CFB, F13A1, C5, SERPING1, CDO1, PLG, AHSG, C8A, FGG, APOA2, LYVE1, FGA, F5, SERPINF2, FGB, HMOX1, F2, SERPINC1, CFH, SERPINA1, C2, SERPIND1	3,05E-012	3,97E-009
2	GOTERM_BP_FAT	GO:0002526~acute inflammatory response	13	C8A, APOA2, CFB, SERPINF2, C3, MASP2, F2, C5, CFH, SERPING1, SERPINA1, C2, AHSG	1,65E-011	1,07E-008
8	GOTERM_BP_FAT	GO:0006956~complement activation	8	C8A, C3, MASP2, CFB, C5, CFH, SERPING1, C2	3,64E-008	6,77E-006
9	GOTERM_BP_FAT	GO:0002541~activation of plasma proteins involved in acute inflammatory response	8	C8A, C3, MASP2, CFB, C5, CFH, SERPING1, C2	4,32E-008	7,03E-006
10	GOTERM_BP_FAT	GO:0006954~inflammatory response	16	F11R, MASP2, C3, CFB, C5, SERPING1, CDO1, AHSG, C8A, APOA2, SERPINF2, HMOX1, F2, CFH, SERPINA1, C2	4,32E-008	6,25E-006
11	GOTERM_BP_FAT	GO:0006957~complement activation, alternative pathway	6	C8A, C3, CFB, C5, CFH, C2	8,33E-008	1,08E-005
14	GOTERM_BP_FAT	GO:0042060~wound healing	12	FGG, FGA, F5, FGB, HMOX1, F13A1, F2, SERPINC1, SERPING1, SERPINA1, SERPIND1, PLG	3,49E-007	3,79E-005
18	GOTERM_BP_FAT	GO:0006952~defense response	19	TCIRG1, F11R, CFB, MASP2, C3, C5, SERPING1, CDO1, AHSG, APOA4, C8A, APOA2, SERPINF2, HMOX1, F2, CFH, SERPINA1, C2, APOM	1,62E-006	1,41E-004
21	GOTERM_BP_FAT	GO:0006958~complement activation, classical pathway	6	C8A, C3, MASP2, C5, SERPING1, C2	3,01E-006	2,30E-004
22	GOTERM_BP_FAT	GO:0006959~humoral immune response	8	C8A, C3, MASP2, CFB, C5, CFH, SERPING1, C2	3,07E-006	2,22E-004
23	GOTERM_BP_FAT	GO:0002455~humoral immune response mediated by circulating immunoglobulin	6	C8A, C3, MASP2, C5, SERPING1, C2	4,26E-006	2,91E-004
26	GOTERM_BP_FAT	GO:0002253~activation of immune response	8	C8A, C3, MASP2, CFB, C5, CFH, SERPING1, C2	9,83E-006	5,81E-004
30	GOTERM_BP_FAT	GO:0045087~innate immune response	9	C8A, APOA4, C3, MASP2, CFB, C5, CFH, SERPING1, C2	1,43E-005	7,43E-004
35	GOTERM_BP_FAT	GO:0050778~positive regulation of immune response	9	C8A, C3, MASP2, CFB, HPX, C5, CFH, SERPING1, C2	2,05E-005	9,51E-004
48	GOTERM_BP_FAT	GO:0016064~immunoglobulin mediated immune response	6	C8A, C3, MASP2, C5, SERPING1, C2	6,85E-005	2,22E-003
50	GOTERM_BP_FAT	GO:0019724~B cell mediated immunity	6	C8A, C3, MASP2, C5, SERPING1, C2	8,16E-005	2,53E-003
51	GOTERM_BP_FAT	GO:0002252~immune effector process	8	C8A, C3, MASP2, CFB, C5, CFH, SERPING1, C2	9,71E-005	2,93E-003

57	GOTERM_BP_FAT	GO:0002449~lymphocyte mediated immunity	6	C8A, C3, MASP2, C5, SERPING1, C2	2,37E-004	6,27E-003
64	GOTERM_BP_FAT	GO:0002460~adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	6	C8A, C3, MASP2, C5, SERPING1, C2	3,70E-004	8,56E-003
65	GOTERM_BP_FAT	GO:0002250~adaptive immune response	6	C8A, C3, MASP2, C5, SERPING1, C2	3,70E-004	8,56E-003

Oxidation reduction   29

3	GOTERM_BP_FAT	GO:0055114~oxidation reduction	23	ALDH8A1, GPD1, LDHB, TYRP1, HSD3B7, SCD, FADS2, DHRS9, HGD, NDUFA13, PAH, GRHPR, CDO1, SOD3, F5, HMOX1, TXN, MIOX, HSD11B2, HSD17B4, CAT, QSOX1, SARDH	5,04E-009	2,19E-006
63	GOTERM_BP_FAT	GO:0006979~response to oxidative stress	8	APOA4, EPAS1, APOE, UCP2, HMOX1, SEPP1, CAT, TAT	3,38E-004	7,97E-003

Blood coagulation, hemostasis, wound healing   12

4	GOTERM_BP_FAT	GO:0050817~coagulation	11	FGG, FGA, F5, FGB, F13A1, F2, SERPINC1, SERPING1, SERPINA1, SERPIND1, PLG	7,96E-009	2,59E-006
5	GOTERM_BP_FAT	GO:0007596~blood coagulation	11	FGG, FGA, F5, FGB, F13A1, F2, SERPINC1, SERPING1, SERPINA1, SERPIND1, PLG	7,96E-009	2,59E-006
6	GOTERM_BP_FAT	GO:0007599~hemostasis	11	FGG, FGA, F5, FGB, F13A1, F2, SERPINC1, SERPING1, SERPINA1, SERPIND1, PLG	1,39E-008	3,62E-006
7	GOTERM_BP_FAT	GO:0050878~regulation of body fluid levels	12	FGG, FGA, F5, FGB, F13A1, F2, SERPINC1, HSD11B2, SERPING1, SERPINA1, SERPIND1, PLG	1,55E-008	3,36E-006

Processing of proteins, carboxylic- and amino acids   20

12	GOTERM_BP_FAT	GO:0046395~carboxylic acid catabolic process	10	PLA2G15, HAL, HGD, PAH, HSD17B4, UROC1, CDO1, TAT, SARDH, CPT1A	2,41E-007	2,86E-005
13	GOTERM_BP_FAT	GO:0016054~organic acid catabolic process	10	PLA2G15, HAL, HGD, PAH, HSD17B4, UROC1, CDO1, TAT, SARDH, CPT1A	2,41E-007	2,86E-005
24	GOTERM_BP_FAT	GO:0051605~protein maturation by peptide bond cleavage	8	C8A, C3, MASP2, CFB, C5, CFH, SERPING1, C2	5,44E-006	3,54E-004
31	GOTERM_BP_FAT	GO:0009063~cellular amino acid catabolic process	7	HAL, HGD, PAH, UROC1, CDO1, TAT, SARDH	1,65E-005	8,25E-004
37	GOTERM_BP_FAT	GO:0016485~protein processing	8	C8A, C3, MASP2, CFB, C5, CFH, SERPING1, C2	3,09E-005	0,00134
39	GOTERM_BP_FAT	GO:0009310~amine catabolic process	7	HAL, HGD, PAH, UROC1, CDO1, TAT, SARDH	3,63E-005	1,47E-003
46	GOTERM_BP_FAT	GO:0051604~protein maturation	8	C8A, C3, MASP2, CFB, C5, CFH, SERPING1, C2	5,36E-005	0,00183

Lipid transport and metabolic processing (eg. cholesterol)   28

15	GOTERM_BP_FAT	GO:0030301~cholesterol transport	7	APOA4, APOA2, APOB, NPC2, APOE, ABCG4, APOM	4,28E-007	4,28E-005
16	GOTERM_BP_FAT	GO:0015918~sterol transport	7	APOA4, APOA2, APOB, NPC2, APOE, ABCG4, APOM	4,28E-007	4,28E-005

	Category	Term	Count	Genes	P-Value	Benjamini
17	GOTERM_BP_FAT	GO:0010035~response to inorganic substance	12	APOA4, FGG, APOB, FGA, APOE, FGB, UCP2, HMOX1, SERPINA1, CAT, TAT, SOD3	7,07E-007	6,57E-005
19	GOTERM_BP_FAT	GO:0065005~protein-lipid complex assembly	5	APOA4, APOA2, APOB, APOE, APOM	1,81E-006	1,47E-004
20	GOTERM_BP_FAT	GO:0034377~plasma lipoprotein particle assembly	5	APOA4, APOA2, APOB, APOE, APOM	1,81E-006	1,47E-004
25	GOTERM_BP_FAT	GO:0034381~lipoprotein particle clearance	5	APOA2, APOB, APOE, HMOX1, APOM	6,49E-006	4,02E-004
27	GOTERM_BP_FAT	GO:0042632~cholesterol homeostasis	6	APOA4, APOA2, APOB, NPC2, APOE, APOM	1,20E-005	6,80E-004
28	GOTERM_BP_FAT	GO:0055092~sterol homeostasis	6	APOA4, APOA2, APOB, NPC2, APOE, APOM	1,20E-005	6,80E-004
29	GOTERM_BP_FAT	GO:0033344~cholesterol efflux	5	APOA4, APOA2, APOE, ABCG4, APOM	1,36E-005	7,36E-004
32	GOTERM_BP_FAT	GO:0034369~plasma lipoprotein particle remodeling	5	APOA4, APOA2, APOB, APOE, APOM	1,69E-005	8,12E-004
33	GOTERM_BP_FAT	GO:0034367~macromolecular complex remodeling	5	APOA4, APOA2, APOB, APOE, APOM	1,69E-005	8,12E-004
34	GOTERM_BP_FAT	GO:0034368~protein-lipid complex remodeling	5	APOA4, APOA2, APOB, APOE, APOM	1,69E-005	8,12E-004
36	GOTERM_BP_FAT	GO:0006641~triglyceride metabolic process	6	APOA4, APOA2, APOB, APOE, CAT, LIPF	2,23E-005	1,00E-003
38	GOTERM_BP_FAT	GO:0008202~steroid metabolic process	10	GC, APOA4, APOA2, APOB, HSD3B7, APOE, HSD11B2, DHRS9, CAT, SCP2	3,37E-005	1,41E-003
41	GOTERM_BP_FAT	GO:0006639~acylglycerol metabolic process	6	APOA4, APOA2, APOB, APOE, CAT, LIPF	4,26E-005	1,63E-003
42	GOTERM_BP_FAT	GO:0046486~glycerolipid metabolic process	9	APOA4, GPD1, APOA2, APOB, PLA2G15, APOE, PCYT1B, CAT, LIPF	4,54E-005	1,69E-003
43	GOTERM_BP_FAT	GO:0006638~neutral lipid metabolic process	6	APOA4, APOA2, APOB, APOE, CAT, LIPF	4,70E-005	1,70E-003
44	GOTERM_BP_FAT	GO:0006662~glycerol ether metabolic process	6	APOA4, APOA2, APOB, APOE, CAT, LIPF	5,18E-005	1,82E-003
45	GOTERM_BP_FAT	GO:0055088~lipid homeostasis	6	APOA4, APOA2, APOB, NPC2, APOE, APOM	5,18E-005	1,82E-003
47	GOTERM_BP_FAT	GO:0018904~organic ether metabolic process	6	APOA4, APOA2, APOB, APOE, CAT, LIPF	6,25E-005	2,08E-003
49	GOTERM_BP_FAT	GO:0016042~lipid catabolic process	9	APOA4, APOA2, APOB, PLA2G15, APOE, PLA2G12B, HSD17B4, CPT1A, LIPF	7,22E-005	2,29E-003
52	GOTERM_BP_FAT	GO:0034375~high-density lipoprotein particle remodeling	4	APOA4, APOA2, APOE, APOM	1,03E-004	3,05E-003
53	GOTERM_BP_FAT	GO:0006869~lipid transport	8	APOA4, APOA2, APOB, NPC2, APOE, ABCG4, APOM, SCP2	1,59E-004	4,59E-003
54	GOTERM_BP_FAT	GO:0045940~positive regulation of steroid metabolic process	4	APOA4, APOA2, APOE, ABCG4	1,69E-004	4,77E-003
55	GOTERM_BP_FAT	GO:0019218~regulation of steroid metabolic process	5	APOA4, APOA2, APOB, APOE, ABCG4	1,86E-004	5,13E-003
58	GOTERM_BP_FAT	GO:0043691~reverse cholesterol transport	4	APOA4, APOA2, APOE, APOM	2,57E-004	6,66E-003
59	GOTERM_BP_FAT	GO:0010876~lipid localization	8	APOA4, APOA2, APOB, NPC2, APOE, ABCG4, APOM, SCP2	2,59E-004	6,60E-003

| 60 | GOTERM_BP_FAT | GO:0019216~regulation of lipid metabolic process | 7 | APOA4, APOA2, APOB, NPC2, APOE, ABCG4, APOM | 2,71E-004 | 6,77E-003 |

Other significant processes

40	GOTERM_BP_FAT	GO:0019748~secondary metabolic process	7	ALDH8A1, GPD1, LDHB, TYRP1, DHRS9, RPIA, OCA2	3,90E-005	1,54E-003
56	GOTERM_BP_FAT	GO:0016052~carbohydrate catabolic process	7	GPD1, LDHB, LYVE1, GNPDA1, PKLR, MIOX, RPIA	2,34E-004	0,00633
61	GOTERM_BP_FAT	GO:0032101~regulation of response to external stimulus	8	C3, APOE, SERPINF2, F2, SERPINC1, SERPING1, PLG, AHSG	2,80E-004	0,00686
62	GOTERM_BP_FAT	GO:0042592~homeostatic process	17	EPAS1, HCLS1, TRIM10, PLG, APOA4, APOA2, APOB, HSP90B1, NPC2, HPX, APOE, HMOX1, F2, TXN, RGN, APOM, QSOX1	2,93E-004	7,03E-003

Molecular function			**Genes**		**P-value**	**Benjamini**
Peptidase inhibitor activity			14			
1	GOTERM_MF_FAT	GO:0004866~endopeptidase inhibitor activity	13	C3, FETUB, C5, SERPING1, AHSG, AMBP, RENBP, SERPINF2, SERPINC1, SERPINA1, ITIH2, SERPIND1, ITIH3	1,91E-009	6,21E-007
2	GOTERM_MF_FAT	GO:0030414~peptidase inhibitor activity	13	C3, FETUB, C5, SERPING1, AHSG, AMBP, RENBP, SERPINF2, SERPINC1, SERPINA1, ITIH2, SERPIND1, ITIH3	3,54E-009	5,75E-007
3	GOTERM_MF_FAT	GO:0004857~enzyme inhibitor activity	14	C3, FETUB, C5, SERPING1, AHSG, AMBP, APOA2, RENBP, SERPINF2, SERPINC1, SERPINA1, ITIH2, SERPIND1, ITIH3	2,59E-007	2,80E-005
6	GOTERM_MF_FAT	GO:0004867~serine-type endopeptidase inhibitor activity	8	AMBP, SERPINF2, SERPINC1, SERPING1, ITIH2, SERPINA1, SERPIND1, ITIH3	9,22E-006	4,99E-004
Lipid transport (especially cholesterol)			15			
4	GOTERM_MF_FAT	GO:0015248~sterol transporter activity	5	APOA4, APOA2, APOB, APOE, HSD17B4	3,80E-006	3,09E-004
11	GOTERM_MF_FAT	GO:0017127~cholesterol transporter activity	4	APOA4, APOA2, APOB, APOE	1,07E-004	3,48E-003
12	GOTERM_MF_FAT	GO:0005319~lipid transporter activity	6	APOA4, APOA2, APOB, APOE, HSD17B4, APOM	1,52E-004	4,49E-003
13	GOTERM_MF_FAT	GO:0008201~heparin binding	7	APOB, APOE, SERPINC1, VTN, SERPIND1, COL5A3, SOD3	1,84E-004	4,96E-003
14	GOTERM_MF_FAT	GO:0070325~lipoprotein receptor binding	4	APOA2, APOB, HSP90B1, APOE	2,18E-004	5,43E-003
15	GOTERM_MF_FAT	GO:0043499~eukaryotic cell surface binding	4	APOA4, FGG, FGA, FGB	3,22E-004	7,45E-003
Protein remodelling			17			
5	GOTERM_MF_FAT	GO:0046983~protein dimerization activity	17	SHBG, GPD1, TYRP1, CNDP1, EPAS1, CNDP2, PAH, MYH6, MYH9, ABCG4, AMBP, APOA4, APOA2, APOB, RENBP, APOE, CAT	6,82E-006	4,43E-004
7	GOTERM_MF_FAT	GO:0042803~protein homodimerization activity	13	SHBG, GPD1, TYRP1, PAH, MYH6, MYH9, ABCG4, APOA4, AMBP, APOA2, RENBP, APOE, CAT	1,58E-005	7,31E-004

Other significant processes			9			
8	GOTERM_MF_FAT	GO:0005539~glycosaminoglycan binding	9	LYVE1, APOB, APOE, SERPINC1, VTN, SERPIND1, COL5A3, SOD3, HABP2	1,73E-005	7,03E-004
9	GOTERM_MF_FAT	GO:0030247~polysaccharide binding	9	LYVE1, APOB, APOE, SERPINC1, VTN, SERPIND1, COL5A3, SOD3, HABP2	3,44E-005	0,00124
10	GOTERM_MF_FAT	GO:0001871~pattern binding	9	LYVE1, APOB, APOE, SERPINC1, VTN, SERPIND1, COL5A3, SOD3, HABP2	3,44E-005	0,00124

Cellular component			Genes		P-value	Benjamini
Extracellular space and region			49			
1	GOTERM_CC_FAT	GO:0005576~extracellular region	49	CNDP1, MASP2, F13A1, VTN, APOA4, APOA2, APOB, APOE, HMOX1, CFH, ITIH2, SERPINA1, ITIH3, SEPP1, APOM, SHBG, SERPING1, CTSS, CCDC134, AMBP, C8A, NPC2, F5, SERPINF2, F2, VMO1, GC, C3, C5, CPN2, AHSG, FGG, FGA, FGB, PLA2G12B, SERPINC1, C2, QSOX1, PLA2G15, CFB, FETUB, ENDOD1, COL5A3, PLG, SOD3, HPX, SERPIND1, HABP2, LIPF	1,32E-013	2,70E-011
2	GOTERM_CC_FAT	GO:0005615~extracellular space	29	GC, C3, C5, VTN, AHSG, APOA4, APOB, APOA2, FGG, FGA, APOE, FGB, HMOX1, SERPINC1, CFH, SERPINA1, SEPP1, C2, APOM, QSOX1, SERPING1, PLG, SOD3, C8A, F5, HPX, SERPINF2, F2, HABP2	4,36E-013	4,47E-011
3	GOTERM_CC_FAT	GO:0044421~extracellular region part	30	GC, C3, C5, VTN, AHSG, APOA4, APOB, APOA2, FGG, FGA, APOE, FGB, HMOX1, SERPINC1, CFH, SERPINA1, SEPP1, C2, APOM, QSOX1, SERPING1, COL5A3, PLG, SOD3, C8A, F5, HPX, SERPINF2, F2, HABP2	2,53E-010	1,73E-008
Vesicle lumen, platelet - and secretory granules			9			
4	GOTERM_CC_FAT	GO:0031983~vesicle lumen	9	FGG, APOB, FGA, F5, FGB, SERPINF2, F13A1, SERPING1, SERPINA1	2,73E-009	1,40E-007
5	GOTERM_CC_FAT	GO:0031093~platelet alpha granule lumen	8	FGG, FGA, F5, FGB, SERPINF2, F13A1, SERPING1, SERPINA1	3,22E-008	1,32E-006
6	GOTERM_CC_FAT	GO:0060205~cytoplasmic membrane-bounded vesicle lumen	8	FGG, FGA, F5, FGB, SERPINF2, F13A1, SERPING1, SERPINA1	5,39E-008	1,84E-006
7	GOTERM_CC_FAT	GO:0031091~platelet alpha granule	8	FGG, FGA, F5, FGB, SERPINF2, F13A1, SERPING1, SERPINA1	3,01E-007	8,82E-006
15	GOTERM_CC_FAT	GO:0030141~secretory granule	8	FGG, FGA, F5, FGB, SERPINF2, F13A1, SERPING1, SERPINA1	6,21E-004	0,00975
Lipid -protein complex (e.g. lipoprotein)			5			
8	GOTERM_CC_FAT	GO:0034385~triglyceride-rich lipoprotein particle	5	APOA4, APOA2, APOB, APOE, APOM	1,74E-005	4,47E-004

9	GOTERM_CC_FAT	GO:0034361~very-low-density lipoprotein particle	5	APOA4, APOA2, APOB, APOE, APOM	1,74E-005	4,47E-004
11	GOTERM_CC_FAT	GO:0042627~chylomicron	4	APOA4, APOA2, APOB, APOE	1,06E-004	2,17E-003
12	GOTERM_CC_FAT	GO:0034358~plasma lipoprotein particle	5	APOA4, APOA2, APOB, APOE, APOM	1,72E-004	3,20E-003
13	GOTERM_CC_FAT	GO:0032994~protein-lipid complex	5	APOA4, APOA2, APOB, APOE, APOM	1,72E-004	3,20E-003

Lysosomes and vacuoles   10

10	GOTERM_CC_FAT	GO:0044433~cytoplasmic vesicle part	10	FGG, TYRP1, APOB, FGA, F5, FGB, SERPINF2, F13A1, SERPING1, SERPINA1	1,95E-005	4,44E-004

Endoplasmatic reticulum and mitochondrion   6

14	GOTERM_CC_FAT	GO:0005788~endoplasmic reticulum lumen	6	APOA4, CES3, APOA2, APOB, HSP90B1, CALR3	4,59E-004	7,81E-003

Table S6: Enrichment of KEGG pathway members in the differentially expressed genes in low 1-C embryos compared to control embryos. The five most enriched pathways are listed.

Kegg pathways	Genes		P-value	Benjamini
1 hsa04610:Complement and coagulation cascades	19	CFB, MASP2, C3, F13A1, C5, SERPING1, PLG, C8A, FGG, F5, FGA, FGB, SERPINF2, F2, SERPINC1, CFH, SERPINA1, SERPIND1, C2	6,92E-019	5,81E-017
2 hsa03320:PPAR signalling pathway	6	APOA2, SCD, FADS2, UCP1, SCP2, CPT1A	2,92E-003	1,16E-001
3 hsa00340:Histidine metabolism	4	CNDP1, FTCD, HAL, UROC1	7,94E-003	2,00E-001
4 hsa00270:Cysteine and methionine metabolism	4	LDHB, MAT1A, CDO1, TAT	1,23E-002	2,30E-001
5 hsa00120:Primary bile acid biosynthesis	3	HSD3B7, HSD17B4, SCP2	1,71E-001	3,05E-001