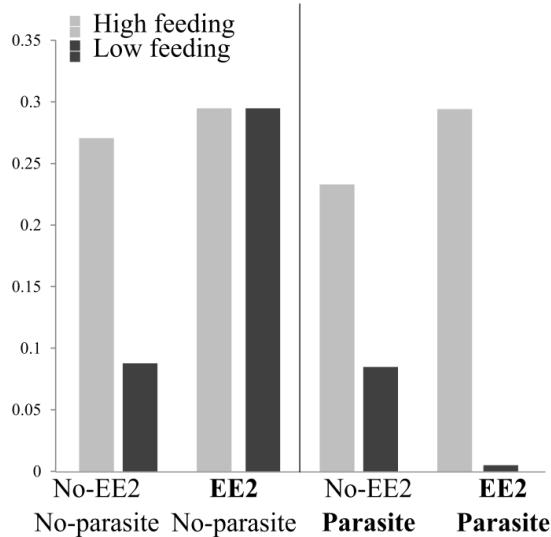


## Supplementary Materials

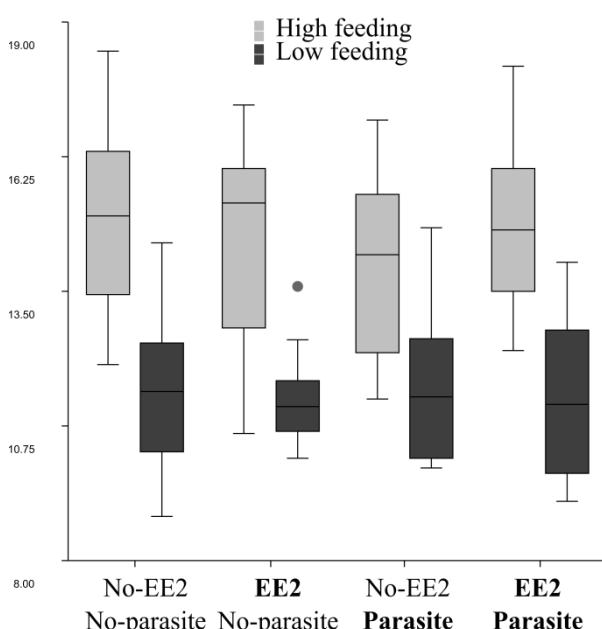
### Trade-Offs Underwater: Physiological Plasticity of Rainbow Trout (*Oncorhynchus mykiss*) Confronted by Multiple Stressors

**Specific Growth Rate**  
(From day -14 to day 90 post infection)

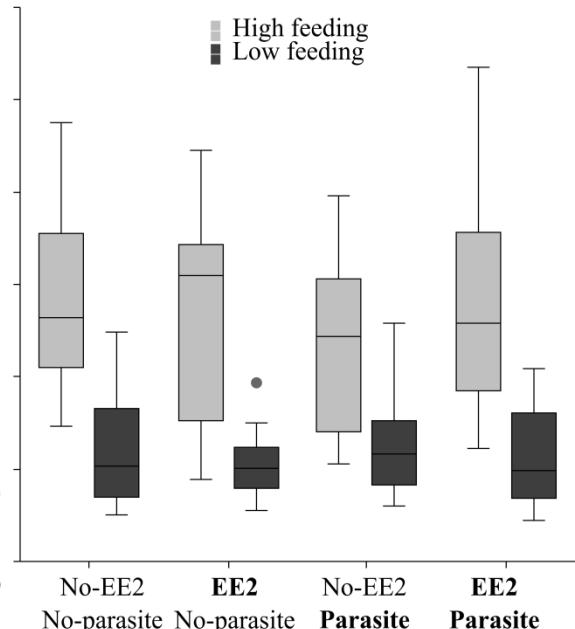


(a)

Length (cm)



Weight (g)



(b)

**Figure S1.** (a) Specific growth rate from rainbow trout sampled at the beginning of the experiment (day -14) and at the sampling point (day 90) for all of the treatment groups; (b) Length (in cm) on the left and weight (in g) on the right from rainbow trout for all of the treatment groups.

**Table S2.** Pearson correlations section (pairwise deletion).

TREATMENT: NC 0 HF	Condition Factor (K)	IGF-1 (-ddCt)	LSI (%)	Vtg (-ddCt)	HKSI (%)	SSI (%)	TKSI (%)	NKEF (-ddCt)	Blimp-1 (-ddCt)	IgM-sec (-ddCt)	IL-10 (-ddCt)
Condition Factor (K)	Correlation	1	-0.421988	-0.044168	-0.061612	0.207648	-0.294823	0.301481	0.031062	0.225194	0.232863
	Significance	0	0.103496	0.870976	0.827331	0.440302	0.267646	0.256477	0.909081	0.401718	0.38544
	n	16	16	16	15	16	16	16	16	16	16
IGF-1 (-ddCt)	Correlation	-0.421988	1	-0.053937	0.384194	0.005342	-0.313733	0.025736	-0.207663	0.418528	0.051891
	Significance	0.103496	0	0.84274	0.157407	0.984334	0.236687	0.924626	0.440267	0.106658	0.848639
	n	16	16	16	15	16	16	16	16	16	16
LSI (%)	Correlation	-0.044168	-0.053937	1	-0.067281	0.13444	-0.336835	0.391601	0.076818	-0.3757	-0.221466
	Significance	0.870976	0.84274	0	0.811695	0.61961	0.202053	0.133613	0.777357	0.151553	0.409761
	n	16	16	16	15	16	16	16	16	16	16
Vtg (-ddCt)	Correlation	-0.061612	0.384194	-0.067281	1	0.099198	-0.099425	0.305333	0.263835	0.221541	0.042222
	Significance	0.827331	0.157407	0.811695	0	0.725041	0.724433	0.268445	0.342028	0.427473	0.881235
	n	15	15	15	15	15	15	15	15	15	15
HKSI (%)	Correlation	0.207648	0.005342	0.13444	0.099198	1	0.210649	0.213491	0.075636	0.415806	0.57289*
	Significance	0.440302	0.984334	0.61961	0.725041	0	0.433572	0.427249	0.780704	0.109193	0.020363
	n	16	16	16	15	16	16	16	16	16	16
SSI (%)	Correlation	-0.294823	-0.313733	-0.336835	-0.099425	0.210649	1	-0.205587	-0.017519	0.110942	-0.010909
	Significance	0.267646	0.236687	0.202053	0.724433	0.433572	0	0.444952	0.948655	0.682512	0.968016
	n	16	16	16	15	16	16	16	16	16	16
TKSI (%)	Correlation	0.301481	0.025736	0.391601	0.305333	0.213491	-0.205587	1	-0.010707	0.108465	0.060137
	Significance	0.256477	0.924626	0.133613	0.268445	0.427249	0.444952	0	0.968608	0.689269	0.82491
	n	16	16	16	15	16	16	16	16	16	16
NKEF (-ddCt)	Correlation	0.031062	-0.207663	0.076818	0.263835	0.075636	-0.017519	-0.010707	1	0.028851	0.015566
	Significance	0.909081	0.440267	0.777357	0.342028	0.780704	0.948655	0.968608	0	0.915531	0.954374
	n	16	16	16	15	16	16	16	16	16	16
Blimp-1 (-ddCt)	Correlation	0.225194	0.418528	-0.3757	0.221541	0.415806	0.110942	0.108465	0.028851	1	0.447967
	Significance	0.401718	0.106658	0.151553	0.427473	0.109193	0.682512	0.689269	0.915531	0	0.08184
	n	16	16	16	15	16	16	16	16	16	16
IgM-sec (-ddCt)	Correlation	0.232863	0.051891	-0.221466	0.042222	0.57289*	-0.010909	0.060137	0.015566	0.447967	1
	Significance	0.38544	0.848639	0.409761	0.881235	0.020363	0.968016	0.82491	0.954374	0.08184	0
	n	16	16	16	15	16	16	16	16	16	16
IL-10 (-ddCt)	Correlation	-0.203457	-0.136687	-0.410928	0.278315	-0.229666	0.122265	-0.095198	0.088606	-0.094711	0.082966
	Significance	0.449786	0.613715	0.113841	0.315173	0.392182	0.651927	0.725812	0.744185	0.727166	0.760009
	n	16	16	16	15	16	16	16	16	16	16

Table S2. Cont.

TREATMENT: NC 0 LF		Condition Factor (K)	IGF-1 (-ddCt)	LSI (%)	Vtg (-ddCt)	HKSI (%)	SSI (%)	TKSI (%)	NKEF (-ddCt)	Blimp-1 (-ddCt)	IgM-sec (-ddCt)	IL-10 (-ddCt)
Condition Factor (K)	Correlation	1	-0.843589*	-0.148042	-0.225217	-0.476152	0.010564	-0.602237*	0.744164*	-0.716038*	-0.679364*	0.58248*
	Significance	0	0.00004	0.598514	0.591781	0.062259	0.969026	0.013562	0.000947	0.00181	0.003797	0.017902
	n	16	16	15	8	16	16	16	16	16	16	16
IGF-1 (-ddCt)	Correlation	-0.843589*	1	0.131071	0.367674	0.505279*	-0.134967	0.654213*	-0.814076*	0.744679*	0.706959*	-0.57825*
	Significance	0.00004	0	0.641491	0.370222	0.045883	0.618226	0.00597	0.000124	0.000935	0.002196	0.018955
	n	16	16	15	8	16	16	16	16	16	16	16
LSI (%)	Correlation	-0.148042	0.131071	1	-0.480771	0.260518	-0.218607	0.31548	0.297939	0.16798	0.006354	-0.14787
	Significance	0.598514	0.641491	0	0.22783	0.348356	0.433775	0.252042	0.280792	0.54956	0.982069	0.598943
	n	15	15	15	8	15	15	15	15	15	15	15
Vtg (-ddCt)	Correlation	-0.225217	0.367674	-0.480771	1	0.175576	-0.14172	0.250008	-0.531628	0.206945	0.480506	0.068202
	Significance	0.591781	0.370222	0.22783	0	0.677498	0.737812	0.550401	0.175089	0.622914	0.228124	0.872516
	n	8	8	8	8	8	8	8	8	8	8	8
HKSI (%)	Correlation	-0.476152	0.505279*	0.260518	0.175576	1	-0.024269	0.721256*	-0.29227	0.72845*	0.611118*	-0.441425
	Significance	0.062259	0.045883	0.348356	0.677498	0	0.928911	0.001614	0.272007	0.001373	0.011903	0.086955
	n	16	16	15	8	16	16	16	16	16	16	16
SSI (%)	Correlation	0.010564	-0.134967	-0.218607	-0.14172	-0.024269	1	0.177477	-0.114747	0.212269	0.304222	-0.348559
	Significance	0.969026	0.618226	0.433775	0.737812	0.928911	0	0.510813	0.672179	0.42996	0.251964	0.185805
	n	16	16	15	8	16	16	16	16	16	16	16
TKSI (%)	Correlation	-0.602237*	0.654213*	0.31548	0.250008	0.721256*	0.177477	1	-0.359396	0.828833*	0.731505*	-0.61663*
	Significance	0.013562	0.00597	0.252042	0.550401	0.001614	0.510813	0	0.171571	0.000072	0.00128	0.010956
	n	16	16	15	8	16	16	16	16	16	16	16
NKEF (-ddCt)	Correlation	0.744164*	-0.814076*	0.297939	-0.531628	-0.29227	-0.114747	-0.359396	1	-0.607498*	-0.687901*	0.475852
	Significance	0.000947	0.000124	0.280792	0.175089	0.272007	0.672179	0.171571	0	0.012559	0.003225	0.062447
	n	16	16	15	8	16	16	16	16	16	16	16
Blimp-1 (-ddCt)	Correlation	-0.716038*	0.744679*	0.16798	0.206945	0.72845*	0.212269	0.828833*	-0.607498*	1	0.82701*	-0.82911*
	Significance	0.00181	0.000935	0.54956	0.622914	0.001373	0.42996	0.000072	0.012559	0	0.000078	0.000072
	n	16	16	15	8	16	16	16	16	16	16	16
IgM-sec (-ddCt)	Correlation	-0.679364*	0.706959*	0.006354	0.480506	0.611118	0.304222	0.731505	-0.687901	0.82701	1	-0.51787
	Significance	0.003797	0.002196	0.982069	0.228124	0.011903	0.251964	0.00128	0.003225	0.000078	0	0.039901
	n	16	16	15	8	16	16	16	16	16	16	16
IL-10 (-ddCt)	Correlation	0.58248*	-0.578257*	-0.14787	0.068202	-0.441425	-0.348559	-0.61663*	0.475852	-0.829115*	-0.51787*	1
	Significance	0.017902	0.018955	0.598943	0.872516	0.086955	0.185805	0.010956	0.062447	0.000072	0.039901	0
	n	16	16	15	8	16	16	16	16	16	16	16

Table S2. Cont.

TREATMENT: NC 9 HF	Condition Factor (K)	IGF-1 (-ddCt)	LSI (%)	Vtg (-ddCt)	HKS1 (%)	SSI (%)	TKSI (%)	NKEF (-ddCt)	Blimp-1 (-ddCt)	IgM-sec (-ddCt)	IL-10 (-ddCt)
<b>Condition Factor (K)</b>	<i>Correlation</i>	1	-0.333279	<b>0.665759*</b>	-0.150375	-0.188982	-0.362762	<b>-0.53523*</b>	<b>0.512769*</b>	0.046535	<b>0.583829*</b>
	<i>Significance</i>	0	0.207157	<b>0.004875</b>	0.578289	0.483325	0.167302	<b>0.032641</b>	<b>0.042249</b>	0.864119	<b>0.017575</b>
	<i>n</i>	16	16	<b>16</b>	16	16	16	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>IGF-1 (-ddCt)</b>	<i>Correlation</i>	-0.333279	1	-0.336001	0.412618	0.355189	0.469637	<b>0.542203*</b>	<b>-0.679192*</b>	0.421382	-0.213609
	<i>Significance</i>	0.207157	0	0.203243	0.112216	0.177008	0.066443	<b>0.030026</b>	<b>0.003809</b>	0.104046	0.426987
	<i>n</i>	16	16	<b>16</b>	16	16	16	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>LSI (%)</b>	<i>Correlation</i>	0.665759*	-0.336001	1	0.037776	-0.189489	-0.348155	-0.28087	<b>0.624192*</b>	0.143257	<b>0.497522*</b>
	<i>Significance</i>	0.004875	0.203243	0	0.889532	0.48213	0.18635	0.291998	<b>0.009755</b>	0.596605	<b>0.049887</b>
	<i>n</i>	16	16	<b>16</b>	16	16	16	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>Vtg (-ddCt)</b>	<i>Correlation</i>	-0.150375	0.412618	0.037776	1	0.279439	0.145198	0.207332	-0.361793	<b>0.73724*</b>	0.309283
	<i>Significance</i>	0.578289	0.112216	0.889532	0	0.294569	0.591588	0.441014	0.168522	<b>0.001119</b>	0.243761
	<i>n</i>	16	16	<b>16</b>	16	16	16	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>HKS1 (%)</b>	<i>Correlation</i>	-0.188982	0.355189	-0.189489	0.279439	1	<b>0.648812*</b>	<b>0.649897*</b>	-0.4396	<b>0.594786*</b>	-0.191649
	<i>Significance</i>	0.483325	0.177008	0.48213	0.294569	0	<b>0.006546</b>	<b>0.006427</b>	0.088422	<b>0.015089</b>	0.477057
	<i>n</i>	16	16	<b>16</b>	16	16	<b>16</b>	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>SSI (%)</b>	<i>Correlation</i>	-0.362762	0.469637	-0.348155	0.145198	<b>0.648812*</b>	1	<b>0.553473*</b>	-0.456428	0.456052	-0.282144
	<i>Significance</i>	0.167302	0.066443	0.18635	0.591588	<b>0.006546</b>	0	<b>0.02614</b>	0.075551	0.075823	0.289723
	<i>n</i>	16	16	<b>16</b>	16	<b>16</b>	16	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>TKSI (%)</b>	<i>Correlation</i>	<b>-0.53523*</b>	<b>0.542203*</b>	-0.28087	0.207332	<b>0.649897*</b>	<b>0.553473*</b>	1	-0.373217	0.242704	<b>-0.515107*</b>
	<i>Significance</i>	<b>0.032641</b>	<b>0.030026</b>	0.291998	0.441014	<b>0.006427</b>	<b>0.02614</b>	0	0.154495	0.365088	<b>0.041161</b>
	<i>n</i>	16	16	<b>16</b>	16	<b>16</b>	<b>16</b>	16	16	<b>16</b>	16
<b>NKEF (-ddCt)</b>	<i>Correlation</i>	<b>0.512769*</b>	<b>-0.679192*</b>	<b>0.624192*</b>	-0.361793	-0.4396	-0.456428	-0.373217	1	-0.337692	0.323885
	<i>Significance</i>	<b>0.042249</b>	<b>0.003809</b>	<b>0.009755</b>	0.168522	0.088422	0.075551	0.154495	0	0.200836	0.221038
	<i>n</i>	16	16	<b>16</b>	16	16	16	16	16	16	16
<b>Blimp-1 (-ddCt)</b>	<i>Correlation</i>	0.046535	0.421382	0.143257	<b>0.73724*</b>	<b>0.594786*</b>	0.456052	0.242704	-0.337692	1	0.390141
	<i>Significance</i>	0.864119	0.104046	0.596605	<b>0.001119</b>	<b>0.015089</b>	0.075823	0.365088	0.200836	0	0.135195
	<i>n</i>	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	16
<b>IgM-sec (-ddCt)</b>	<i>Correlation</i>	<b>0.583829*</b>	-0.213609	<b>0.497522*</b>	0.309283	-0.191649	-0.282144	<b>-0.515107*</b>	0.323885	0.390141	1
	<i>Significance</i>	<b>0.017575</b>	0.426987	<b>0.049887</b>	0.243761	0.477057	0.289723	<b>0.041161</b>	0.221038	0.135195	0
	<i>n</i>	16	16	<b>16</b>	16	16	16	<b>16</b>	16	16	16
<b>IL-10 (-ddCt)</b>	<i>Correlation</i>	0.115193	-0.342633	0.138186	-0.436928	-0.1773	-0.286936	-0.064417	0.28126	-0.3901	-0.283984
	<i>Significance</i>	0.670973	0.193906	0.609794	0.090601	0.511241	0.281254	0.812646	0.291301	0.135241	0.286453
	<i>n</i>	16	16	<b>16</b>	16	<b>16</b>	16	<b>16</b>	<b>16</b>	16	<b>16</b>

Table S2. Cont.

TREATMENT: NC 9 LF	Condition Factor (K)	IGF-1 (-ddCt)	LSI (%)	Vtg (-ddCt)	HKS1 (%)	SSI (%)	TKSI (%)	NKEF (-ddCt)	Blimp-1 (-ddCt)	IgM-sec (-ddCt)	IL-10 (-ddCt)
<b>Condition Factor (K)</b>	Correlation	1	-0.442229	<b>0.723947*</b>	<b>-0.654642*</b>	-0.309703	-0.255526	0.077195	0.364176	-0.205825	0.250218
	Significance	0	0.086314	<b>0.00152</b>	<b>0.005926</b>	0.243087	0.339486	0.776291	0.165529	0.444415	0.349957
	n	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	16
<b>IGF-1 (-ddCt)</b>	Correlation	-0.442229	1	-0.354355	0.220016	-0.059348	0.268211	0.085269	0.238793	-0.23564	0.064515
	Significance	0.086314	0	0.178099	0.412911	0.827176	0.315198	0.753535	0.373102	0.379635	0.812368
	n	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	16
<b>LSI (%)</b>	Correlation	<b>0.723947*</b>	-0.354355	1	-0.493615	-0.099433	-0.079259	0.275797	0.060337	-0.278333	0.378957
	Significance	<b>0.00152</b>	0.178099	0	0.051999	0.714083	0.770456	0.301169	0.824336	0.296565	0.147753
	n	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	16
<b>Vtg (-ddCt)</b>	Correlation	<b>-0.654642*</b>	0.220016	-0.493615	1	0.401251	0.443689	0.237079	-0.276024	0.366834	-0.200157
	Significance	<b>0.005926</b>	0.412911	0.051999	0	0.123466	0.08516	0.376646	0.300755	0.162232	0.457327
	n	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	16
<b>HKS1 (%)</b>	Correlation	-0.309703	-0.059348	-0.099433	0.401251	1	0.456719	<b>0.518853*</b>	0.0023	0.207393	-0.451396
	Significance	0.243087	0.827176	0.714083	0.123466	0	0.075341	<b>0.03946</b>	0.993256	0.440874	0.079247
	n	16	16	<b>16</b>	<b>16</b>	16	16	<b>16</b>	16	16	16
<b>SSI (%)</b>	Correlation	-0.255526	0.268211	-0.079259	0.443689	0.456719	1	0.384174	0.031883	0.174131	0.051477
	Significance	0.339486	0.315198	0.770456	0.08516	0.075341	0	0.141801	0.906689	0.51894	0.849834
	n	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	16
<b>TKSI (%)</b>	Correlation	0.077195	0.085269	0.275797	0.237079	<b>0.518853*</b>	0.384174	1	-0.022621	0.250182	0.140185
	Significance	0.776291	0.753535	0.301169	0.376646	<b>0.03946</b>	0.141801	0	0.93373	0.35003	0.604581
	n	16	16	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	16	16	16	<b>16</b>
<b>NKEF (-ddCt)</b>	Correlation	0.364176	0.238793	0.060337	-0.276024	0.0023	0.031883	-0.022621	1	-0.46175	-0.408582
	Significance	0.165529	0.373102	0.824336	0.300755	0.993256	0.906689	0.93373	0	0.071778	0.116124
	n	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	<b>16</b>
<b>Blimp-1 (-ddCt)</b>	Correlation	-0.205825	-0.23564	-0.278333	0.366834	0.207393	0.174131	0.250182	-0.46175	1	0.371384
	Significance	0.444415	0.379635	0.296565	0.162232	0.440874	0.51894	0.35003	0.071778	0	0.156691
	n	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	<b>16</b>
<b>IgM-sec (-ddCt)</b>	Correlation	0.250218	0.064515	0.378957	-0.200157	-0.451396	0.051477	0.140185	-0.408582	0.371384	1
	Significance	0.349957	0.812368	0.147753	0.457327	0.079247	0.849834	0.604581	0.116124	0.156691	0
	n	16	16	<b>16</b>	<b>16</b>	16	16	16	16	16	16
<b>IL-10 (-ddCt)</b>	Correlation	0.020611	0.30403	-0.021044	-0.319782	-0.404874	-0.297248	<b>-0.577289*</b>	<b>0.516112*</b>	<b>-0.820198*</b>	-0.408639
	Significance	0.939607	0.252278	0.938342	0.227281	0.119799	0.263545	<b>0.019204</b>	<b>0.040699</b>	<b>0.0001</b>	0.116068
	n	16	16	<b>16</b>	<b>16</b>	16	16	<b>16</b>	<b>16</b>	<b>16</b>	16

Table S2. Cont.

TREATMENT: PKD 0 HF	Condition Factor (K)	IGF-1 (-ddCt)	LSI (%)	Vtg (-ddCt)	HKSI (%)	SSI (%)	TKSI (%)	NKEF (-ddCt)	Blimp-1 (-ddCt)	IgM-sec (-ddCt)	IL-10 (-ddCt)
<b>Condition Factor (K)</b>	<i>Correlation</i>	1	-0.06845	-0.38358	0.381081	-0.317584	-0.446143	-0.284832	0.416438	-0.495531	-0.580726*
	<i>Significance</i>	0	0.80113	0.14247	0.277261	0.230672	0.083244	0.284953	0.108601	0.050955	0.018334
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>IGF-1 (-ddCt)</b>	<i>Correlation</i>	-0.06845	1	-0.067489	0.126064	-0.184914	-0.00284	-0.263545	-0.295771	0.220285	0.035225
	<i>Significance</i>	0.80113	0	0.803872	0.728575	0.492961	0.991671	0.32401	0.266037	0.412325	0.896954
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>LSI (%)</b>	<i>Correlation</i>	-0.38358	-0.067489	1	-0.210164	0.490056	0.572879	0.404342	-0.377769	0.250626	0.189342
	<i>Significance</i>	0.14247	0.803872	0	0.56004	0.05398	0.020366	0.120333	0.149132	0.349146	0.482477
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>Vtg (-ddCt)</b>	<i>Correlation</i>	0.381081	0.126064	-0.210164	1	0.05797	0.484661	0.129103	-0.082266	0.204449	-0.356952
	<i>Significance</i>	0.277261	0.728575	0.56004	0	0.873616	0.155705	0.722248	0.821255	0.570997	0.311283
	<i>n</i>	10	10	10	10	10	10	10	10	10	10
<b>HKSI (%)</b>	<i>Correlation</i>	-0.317584	-0.184914	0.490056	0.05797	1	<b>0.556674*</b>	<b>0.674252*</b>	<b>-0.698539*</b>	<b>0.660107*</b>	<b>0.53347*</b>
	<i>Significance</i>	0.230672	0.492961	0.05398	0.873616	0	<b>0.02511</b>	<b>0.004177</b>	<b>0.002611</b>	<b>0.005389</b>	<b>0.033327</b>
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>SSI (%)</b>	<i>Correlation</i>	-0.446143	-0.00284	0.572879	0.484661	<b>0.556674*</b>	1	<b>0.650393*</b>	-0.386147	<b>0.645353*</b>	0.386236
	<i>Significance</i>	0.083244	0.991671	0.020366	0.155705	<b>0.02511</b>	0	<b>0.006373</b>	0.139592	<b>0.006937</b>	0.139494
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>TKSI (%)</b>	<i>Correlation</i>	-0.284832	-0.263545	0.404342	0.129103	<b>0.674252*</b>	<b>0.650393*</b>	1	-0.39059	<b>0.6584*</b>	0.315416
	<i>Significance</i>	0.284953	0.32401	0.120333	0.722248	<b>0.004177</b>	<b>0.006373</b>	0	0.134707	<b>0.005552</b>	0.234047
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>NKEF (-ddCt)</b>	<i>Correlation</i>	0.416438	-0.295771	-0.377769	-0.082266	<b>-0.698539*</b>	-0.386147	-0.39059	1	<b>-0.608329*</b>	<b>-0.510774*</b>
	<i>Significance</i>	0.108601	0.266037	0.149132	0.821255	<b>0.002611</b>	0.139592	0.134707	0	<b>0.012406</b>	<b>0.043195</b>
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>Blimp-1 (-ddCt)</b>	<i>Correlation</i>	-0.495531	0.220285	0.250626	0.204449	<b>0.660107*</b>	<b>0.645353*</b>	<b>0.6584*</b>	<b>-0.608329*</b>	1	<b>0.701844*</b>
	<i>Significance</i>	0.050955	0.412325	0.349146	0.570997	<b>0.005389</b>	<b>0.006937</b>	<b>0.005552</b>	<b>0.012406</b>	0	<b>0.002441</b>
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>IgM-sec (-ddCt)</b>	<i>Correlation</i>	<b>-0.580726*</b>	0.035225	0.189342	-0.356952	0.53347	0.386236	0.315416	<b>-0.510774*</b>	<b>0.701844*</b>	1
	<i>Significance</i>	<b>0.018334</b>	0.896954	0.482477	0.311283	0.033327	0.139494	0.234047	<b>0.043195</b>	<b>0.002441</b>	0
	<i>n</i>	16	16	16	10	16	16	16	16	16	16
<b>IL-10 (-ddCt)</b>	<i>Correlation</i>	0.40329	-0.274142	-0.291571	-0.392152	<b>-0.720269*</b>	<b>-0.56871*</b>	<b>-0.643488*</b>	<b>0.749226*</b>	<b>-0.901488*</b>	-0.496587
	<i>Significance</i>	0.121393	0.304198	0.273208	0.262361	<b>0.00165</b>	<b>0.021514</b>	<b>0.007156</b>	<b>0.000836</b>	<b>0.000002</b>	0.050386
	<i>n</i>	16	16	16	10	16	16	16	16	16	16

Table S2. Cont.

TREATMENT: PKD 0 LF		Condition Factor (K)	IGF-1 (-ddCt)	LSI (%)	Vtg (-ddCt)	HKSI (%)	SSI (%)	TKSI (%)	NKEF (-ddCt)	Blimp-1 (-ddCt)	IgM-sec (-ddCt)	IL-10 (-ddCt)
<b>Condition Factor (K)</b>	Correlation	1	-0.183101	0.363554	-0.214076	0.482297	0.07659	0.231703	0.048363	0.094001	0.100964	-0.195892
	Significance	0	0.497285	0.166307	0.580202	0.058493	0.778004	0.387879	0.858831	0.729138	0.709856	0.467167
	n	16	16	16	9	16	16	16	16	16	16	16
<b>IGF-1 (-ddCt)</b>	Correlation	-0.183101	1	0.130352	0.260892	0.241504	0.307788	0.262311	-0.211765	0.366241	-0.25916	<b>-0.53053*</b>
	Significance	0.497285	0	0.630393	0.497745	0.367537	0.246167	0.326365	0.431083	0.162964	0.332421	<b>0.034495</b>
	n	16	16	16	9	16	16	16	16	16	16	<b>16</b>
<b>LSI (%)</b>	Correlation	0.363554	0.130352	1	0.45803	<b>0.671373*</b>	0.470681	<b>0.631508*</b>	-0.232322	0.432209	0.440798	-0.349913
	Significance	0.166307	0.630393	0	0.215031	<b>0.004404</b>	0.065759	<b>0.008694</b>	0.386577	0.094543	0.087457	0.183986
	n	16	16	16	9	<b>16</b>	16	<b>16</b>	16	16	16	16
<b>Vtg (-ddCt)</b>	Correlation	-0.214076	0.260892	0.45803	1	-0.014531	0.236399	-0.080691	0.15239	0.143847	0.231581	-0.167527
	Significance	0.580202	0.497745	0.215031	0	0.970403	0.54028	0.836507	0.695498	0.711964	0.548805	0.666597
	n	9	9	9	9	9	9	9	9	9	9	9
<b>HKSI (%)</b>	Correlation	0.482297	0.241504	<b>0.671373*</b>	-0.014531	1	<b>0.583556*</b>	<b>0.69907*</b>	-0.304909	<b>0.539762*</b>	0.279056	<b>-0.64854*</b>
	Significance	0.058493	0.367537	<b>0.004404</b>	0.970403	0	<b>0.017641</b>	<b>0.002583</b>	0.25084	<b>0.030922</b>	0.295259	<b>0.006576</b>
	n	16	16	<b>16</b>	9	16	<b>16</b>	<b>16</b>	16	<b>16</b>	16	<b>16</b>
<b>SSI (%)</b>	Correlation	0.07659	0.307788	0.470681	0.236399	<b>0.583556*</b>	1	<b>0.687631*</b>	<b>-0.62235*</b>	<b>0.566806*</b>	0.169222	<b>-0.77758*</b>
	Significance	0.778004	0.246167	0.065759	0.54028	<b>0.017641</b>	0	<b>0.003242</b>	<b>0.010037</b>	<b>0.022055</b>	0.530972	<b>0.000392</b>
	n	16	16	16	9	<b>16</b>	16	<b>16</b>	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>TKSI (%)</b>	Correlation	0.231703	0.262311	<b>0.631508*</b>	-0.080691	<b>0.69907*</b>	<b>0.687631*</b>	1	-0.339337	<b>0.822938*</b>	0.303667	<b>-0.72928*</b>
	Significance	0.387879	0.326365	<b>0.008694</b>	0.836507	<b>0.002583</b>	<b>0.003242</b>	0	0.198512	<b>0.00009</b>	0.252874	<b>0.001347</b>
	n	16	16	<b>16</b>	9	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>NKEF (-ddCt)</b>	Correlation	0.048363	-0.211765	-0.232322	0.15239	-0.304909	<b>-0.62235*</b>	-0.339337	1	-0.293065	-0.282944	0.448505
	Significance	0.858831	0.431083	0.386577	0.695498	0.25084	<b>0.010037</b>	0.198512	0	0.270645	0.288298	0.081429
	n	16	16	16	9	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>Blimp-1 (-ddCt)</b>	Correlation	0.094001	0.366241	0.432209	0.143847	<b>0.539762*</b>	<b>0.566806*</b>	<b>0.822938*</b>	-0.293065	1	0.375599	<b>-0.77080*</b>
	Significance	0.729138	0.162964	0.094543	0.711964	<b>0.030922</b>	<b>0.022055</b>	<b>0.00009</b>	0.270645	0	0.151672	<b>0.000474</b>
	n	16	16	16	9	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	16	<b>16</b>
<b>IgM-sec (-ddCt)</b>	Correlation	0.100964	-0.25916	0.440798	0.231581	0.279056	0.169222	0.303667	-0.282944	0.375599	1	-0.102705
	Significance	0.709856	0.332421	0.087457	0.548805	0.295259	0.530972	0.252874	0.288298	0.151672	0	0.70506
	n	16	16	16	9	16	16	16	16	16	16	16
<b>IL-10 (-ddCt)</b>	Correlation	-0.195892	<b>-0.530538*</b>	-0.349913	-0.167527	<b>-0.648545*</b>	<b>-0.777583*</b>	<b>-0.72928*</b>	0.448505	<b>-0.770806*</b>	-0.102705	1
	Significance	0.467167	<b>0.034495</b>	0.183986	0.666597	<b>0.006576</b>	<b>0.000392</b>	<b>0.001347</b>	0.081429	<b>0.000474</b>	0.70506	0
	n	16	<b>16</b>	16	9	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	16	<b>16</b>

Table S2. Cont.

TREATMENT: PKD 9 HF	Condition Factor (K)	IGF-1 (-ddCt)	LSI (%)	Vtg (-ddCt)	HKSI (%)	SSI (%)	TKSI (%)	NKEF (-ddCt)	Blimp-1 (-ddCt)	IgM-sec (-ddCt)	IL-10 (-ddCt)	
<b>Condition Factor (K)</b>	<i>Correlation</i>	1	-0.317364	0.310972	-0.156315	0.084278	<b>-0.516985*</b>	-0.026279	0.089276	0.114388	0.210871	0.083243
	<i>Significance</i>	0	0.231013	0.241061	0.563187	0.756318	<b>0.040301</b>	0.92304	0.742312	0.673153	0.433075	0.759227
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	16	16	16	16
<b>IGF-1 (-ddCt)</b>	<i>Correlation</i>	-0.317364	1	0.314538	0.159191	0.248707	0.077034	-0.228139	-0.177415	0.113242	0.018891	0.014402
	<i>Significance</i>	0.231013	0	0.235422	0.555938	0.352971	0.776745	0.395424	0.510963	0.67626	0.944639	0.957781
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	16	16	16	16
<b>LSI (%)</b>	<i>Correlation</i>	0.310972	0.314538	1	-0.289481	-0.041477	-0.269755	-0.044996	-0.079571	0.000226	0.063334	0.112481
	<i>Significance</i>	0.241061	0.235422	0	0.276819	0.878782	0.312312	0.868576	0.769577	0.999338	0.815746	0.678325
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	16	16	16	16
<b>Vtg (-ddCt)</b>	<i>Correlation</i>	-0.156315	0.159191	-0.289481	1	0.122022	0.108594	0.13616	-0.168443	0.18385	-0.127638	-0.095032
	<i>Significance</i>	0.563187	0.555938	0.276819	0	0.652577	0.688915	0.615095	0.532892	0.495497	0.637589	0.726273
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	16	16	16	16
<b>HKSI (%)</b>	<i>Correlation</i>	0.084278	0.248707	-0.041477	0.122022	1	0.136566	0.350899	-0.093299	0.442701	0.375237	-0.356212
	<i>Significance</i>	0.756318	0.352971	0.878782	0.652577	0	0.614031	0.182667	0.731092	0.08594	0.152099	0.175675
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	16	16	16	16
<b>SSI (%)</b>	<i>Correlation</i>	-0.516985	0.077034	-0.269755	0.108594	0.136566	1	0.242622	0.001186	0.284893	0.233336	-0.269018
	<i>Significance</i>	0.040301	0.776745	0.312312	0.688915	0.614031	0	0.365254	0.996521	0.284846	0.384449	0.313686
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	16	16	16	16
<b>TKSI (%)</b>	<i>Correlation</i>	-0.026279	-0.228139	-0.044996	0.13616	0.350899	0.242622	1	<b>-0.621328*</b>	<b>0.743895*</b>	0.35415	<b>-0.61556*</b>
	<i>Significance</i>	0.92304	0.395424	0.868576	0.615095	0.182667	0.365254	0	<b>0.010197</b>	<b>0.000953</b>	0.178367	<b>0.011133</b>
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	<b>16</b>	<b>16</b>	16	16
<b>NKEF (-ddCt)</b>	<i>Correlation</i>	0.089276	-0.177415	-0.079571	-0.168443	-0.093299	0.001186	<b>-0.621328*</b>	1	<b>-0.768772*</b>	-0.497065	<b>0.585439*</b>
	<i>Significance</i>	0.742312	0.510963	0.769577	0.532892	0.731092	0.996521	<b>0.010197</b>	0	<b>0.000501</b>	0.05013	<b>0.017191</b>
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	<b>16</b>	<b>16</b>	16	16
<b>Blimp-1 (-ddCt)</b>	<i>Correlation</i>	0.114388	0.113242	0.000226	0.18385	0.442701	0.284893	<b>0.743895*</b>	<b>-0.768772*</b>	1	<b>0.60106*</b>	<b>-0.70745*</b>
	<i>Significance</i>	0.673153	0.67626	0.999338	0.495497	0.08594	0.284846	<b>0.000953</b>	<b>0.000501</b>	0	<b>0.013795</b>	<b>0.002174</b>
	<i>n</i>	16	16	16	16	16	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>
<b>IgM-sec (-ddCt)</b>	<i>Correlation</i>	0.210871	0.018891	0.063334	-0.127638	0.375237	0.233336	0.35415	-0.497065	<b>0.60106*</b>	1	<b>-0.63860*</b>
	<i>Significance</i>	0.433075	0.944639	0.815746	0.637589	0.152099	0.384449	0.178367	0.05013	<b>0.013795</b>	0	<b>0.007754</b>
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	<b>16</b>	<b>16</b>	16	16
<b>IL-10 (-ddCt)</b>	<i>Correlation</i>	0.083243	0.014402	0.112481	-0.095032	-0.356212	-0.269018	<b>-0.615569*</b>	<b>0.585439*</b>	<b>-0.70745*</b>	-0.638609*	1
	<i>Significance</i>	0.759227	0.957781	0.678325	0.726273	0.175675	0.313686	<b>0.011133</b>	<b>0.017191</b>	<b>0.002174</b>	<b>0.007754</b>	0
	<i>n</i>	16	16	16	16	16	<b>16</b>	16	<b>16</b>	<b>16</b>	16	16

Table S2. Cont.

TREATMENT: PKD 9 LF	Condition Factor (K)	IGF-1 (-ddCt)	LSI (%)	Vtg (-ddCt)	HKSI (%)	SSI (%)	TKSI (%)	NKEF (-ddCt)	Blimp-1 (-ddCt)	IgM-sec (-ddCt)	IL-10 (-ddCt)
<b>Condition Factor (K)</b>	<i>Correlation</i> 0 <i>Significance</i> 0 <i>n</i> 16	-0.268408 0.314828 16	<b>0.650314*</b> <b>0.006382</b> 16	-0.254334 0.341823 16	0.122581 0.651081 16	0.049997 0.854107 16	0.173378 0.520778 16	-0.335062 0.204587 16	0.081571 0.763936 16	0.075492 0.781112 16	-0.040249 0.882348 16
<b>IGF-1 (-ddCt)</b>	<i>Correlation</i> -0.268408 <i>Significance</i> 0.314828 <i>n</i> 16	1 0 16	-0.257308 0.336012 16	0.402216 0.122482 16	0.420004 0.105301 16	0.080943 0.765706 16	0.216874 0.419783 16	0.232144 0.386951 16	0.227694 0.396371 16	0.110395 0.684003 16	-0.339165 0.198753 16
<b>LSI (%)</b>	<i>Correlation</i> 0.650314 <i>Significance</i> 0.006382 <i>n</i> 16	-0.257308 0.336012 16	1 0 16	-0.229318 0.392919 16	0.282209 0.289607 16	0.253636 0.343195 16	0.365337 0.164083 16	<b>-0.557748*</b> <b>0.024772</b> 16	0.210645 0.433581 16	0.176343 0.51356 16	-0.051169 0.850723 16
<b>Vtg (-ddCt)</b>	<i>Correlation</i> -0.254334 <i>Significance</i> 0.341823 <i>n</i> 16	0.402216 0.122482 16	-0.229318 0.392919 16	1 0 16	0.476499 0.062042 16	0.488626 0.054792 16	0.43686 0.090657 16	-0.285261 0.284198 16	0.381301 0.145058 16	0.072976 0.788249 16	-0.494904 0.051295 16
<b>HKSI (%)</b>	<i>Correlation</i> 0.122581 <i>Significance</i> 0.651081 <i>n</i> 16	0.420004 0.105301 16	0.282209 0.289607 16	0.476499 0.062042 16	1 0 16	0.338528 0.199652 16	<b>0.585643*</b> <b>0.017143</b> 16	<b>-0.509768*</b> <b>0.043678</b> 16	<b>0.594733*</b> <b>0.0151</b> 16	0.410561 0.114196 16	<b>-0.66290*</b> <b>0.005129</b> 16
<b>SSI (%)</b>	<i>Correlation</i> 0.049997 <i>Significance</i> 0.854107 <i>n</i> 16	0.080943 0.765706 16	0.253636 0.343195 16	0.488626 0.054792 16	0.338528 0.199652 16	1 0 16	<b>0.560916*</b> <b>0.023794</b> 16	-0.218759 0.415654 16	0.404461 0.120213 16	0.318971 0.228529 16	-0.324876 0.219546 16
<b>TKSI (%)</b>	<i>Correlation</i> 0.173378 <i>Significance</i> 0.520778 <i>n</i> 16	0.216874 0.419783 16	0.365337 0.164083 16	0.43686 0.090657 16	<b>0.585643*</b> <b>0.017143</b> 16	<b>0.560916*</b> <b>0.023794</b> 16	1 0 16	-0.57484* 0.019842 16	0.780677* 0.000358 16	0.620183* 0.010378 16	-0.61728* 0.010848 16
<b>NKEF (-ddCt)</b>	<i>Correlation</i> -0.335062 <i>Significance</i> 0.204587 <i>n</i> 16	0.232144 0.386951 16	<b>-0.557748*</b> <b>0.024772</b> 16	-0.285261 0.284198 16	<b>-0.509768*</b> <b>0.043678</b> 16	-0.218759 0.415654 16	<b>-0.57484*</b> <b>0.019842</b> 16	1 0 16	-0.482715 0.058243 16	-0.384864 0.141026 16	0.422345 0.103174 16
<b>Blimp-1 (-ddCt)</b>	<i>Correlation</i> 0.081571 <i>Significance</i> 0.763936 <i>n</i> 16	0.227694 0.396371 16	0.210645 0.433581 16	0.381301 0.145058 16	<b>0.594733*</b> <b>0.0151</b> 16	0.404461 0.120213 16	<b>0.780677*</b> <b>0.000358</b> 16	-0.482715 0.058243 16	1 0 16	<b>0.712183*</b> <b>0.001966</b> 16	-0.88527* <b>0.000005</b> 16
<b>IgM-sec (-ddCt)</b>	<i>Correlation</i> 0.075492 <i>Significance</i> 0.781112 <i>n</i> 16	0.110395 0.684003 16	0.176343 0.51356 16	0.072976 0.788249 16	0.410561 0.114196 16	0.318971 0.228529 16	<b>0.620183*</b> <b>0.010378</b> 16	-0.384864 0.141026 16	<b>0.712183*</b> <b>0.001966</b> 16	1 0 16	-0.60962* <b>0.01217</b> 16
<b>IL-10 (-ddCt)</b>	<i>Correlation</i> -0.040249 <i>Significance</i> 0.882348 <i>n</i> 16	-0.339165 0.198753 16	-0.051169 0.850723 16	-0.494904 0.051295 16	<b>-0.662906*</b> <b>0.005129</b> 16	-0.324876 0.219546 16	<b>-0.617284*</b> <b>0.010848</b> 16	0.422345 0.103174 16	-0.885279* 0.000005 16	-0.609625* 0.01217 16	1 0 16

**Table S3.** Monthly mean values of maintenance conditions through the experiment in terms of fish numbers and densities, from the start of the experiment in July until the final sampling time point in January. Different densities occurred in HF groups (high feeding) and LF groups (low feeding), and therefore they are presented separately.

	Average fish per tank	Fish average weight HF (g)	Fish average weight LF (g)	Total grams fish per tank HF (g)	Total grams fish per tank LF (g)	Liters per tank (l)	Density HF (g/l)	Density LF(g/l)
<b>July</b>	133	10	10	1332	1332	38	35.05	35.05
<b>August</b>	127	11.4	11.4	1452.36	1452.36	38	38.22	38.22
<b>September</b>	110	15.1	10.4	1673.08	1152.32	38	44.02	30.32
<b>October</b>	80	22.8	15.8	1843.38	1277.43	38	48.51	33.61
<b>November</b>	77	23	14	1789.4	1089.2	38	47.08	28.66
<b>December</b>	64	39.7	17	2578.515	1104.15	38	67.85	29.05
<b>January</b>	52	58.71	29.62	3096.95	1562.45	38	81.49	41.11

**Table S4.** ANOVA results for comparison between groups of all parameters.

Parameter	Test applied	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject equal means ( $\alpha=0.05$ )	Power ( $\alpha=0.05$ )	Post-hoc test
Condition Factor (K)	One-way analysis of variance (ANOVA)	7	0.6937695	0.09910993	5.9048	0.00001	Yes	0.99907	Tukey multiple comparison's post hoc test
Liver <i>IGF-1</i> mRNA ( $\Delta\Delta Ct$ )	One-way analysis of variance (ANOVA)	7	63.70038	9.100055	14.3361	0.00000	Yes	1.00000	Tukey multiple comparison's post hoc test
Liver <i>vtg</i> mRNA ( $\Delta\Delta Ct$ )	One-way analysis of variance (ANOVA)	7	6081.049	868.7214	709.1237	0.00000	Yes	1.00000	Tukey multiple comparison's post hoc test
Chi-Squared									
(H)									
Parameter	Test applied	DF	(H)	Prob Level	Reject equality of medians? ( $\alpha=0.05$ )				
Liver Somatic Index (%)	Kruskal-Wallis One-Way ANOVA on Ranks	7	53.0461	0.00000	Yes	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)			
Head Kidney Somatic Index (%)	Kruskal-Wallis One-Way ANOVA on Ranks	7	50.2582	0.00000	Yes	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)			
Splenosomatic Index (%)	Kruskal-Wallis One-Way ANOVA on Ranks	7	50.7743	0.00000	Yes	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)			
Trunk Kidney Somatic Index (%)	Kruskal-Wallis One-Way ANOVA on Ranks	7	87.0005	0.00000	Yes	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)			
<i>Blimp-1</i> mRNA ( $\Delta\Delta Ct$ )	Kruskal-Wallis One-Way ANOVA on Ranks	7	80.8216	0.00000	Yes	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)			
<i>IgM-sec</i> mRNA ( $\Delta\Delta Ct$ )	Kruskal-Wallis One-Way ANOVA on Ranks	7	26.7190	0.00037	Yes	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)			
<i>IL-10</i> mRNA ( $\Delta\Delta Ct$ )	Kruskal-Wallis One-Way ANOVA on Ranks	7	78.9016	0.00000	Yes	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)			
<i>NKEF</i> mRNA ( $\Delta\Delta Ct$ )	Kruskal-Wallis One-Way ANOVA on Ranks	7	44.7275	0.00000	Yes	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)			

**Table S5.** Statistical analysis applied for each parameter. Significance was given when  $P \leq 0.05$ .

Parameter	Normality Shapiro-Wilk $W^1$	Test applied	Post-hoc test
Condition Factor	Can't reject normality	One-way analysis of variance (ANOVA)	Tukey multiple comparision's <i>post hoc</i> test
Hepatic <i>IGF-1</i> mRNA	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
Hepatic <i>vtg</i> mRNA	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
Liver Somatic Index	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
Head Kidney Somatic Index	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
Splenosomatic Index	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
Trunk Kidney Somatic Index	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
<i>Blimp-1</i> mRNA	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
<i>IgM-sec</i> mRNA	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
<i>IL-10</i> mRNA	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)
<i>NKEF</i> mRNA	Reject normality	Kruskal-Wallis	Kruskal-Wallis multiple comparison Z-value test (Dunn's test)

<sup>1</sup> Normality was assessed per treatment groups. If at least one group was not normally distributed, tests were applied for not-normally distributed data.

**Table S6.** P-values and Z-values of the multiple comparison tests for each parameter between all of the groups. Significant values are shown in bold.

Condition Factor								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF		0.01454	1	0.01198	0.99998	0.78645	0.99998	0.05159
LF	0.01454		0.00605	1	0.0396	0.52716	0.00461	0.99989
HFE	1	0.00605		0.00487	0.9991	0.62952	1	0.02462
LFE	0.01198	1	0.00487		0.03341	0.48814	0.00369	0.99975
HFP	0.99998	0.0396	0.9991	0.03341		0.9266	0.99806	0.11917
LFP	0.78645	0.52716	0.62952	0.48814	0.9266		0.58078	0.79388
HFEP	0.99998	0.00461	1	0.00369	0.99806	0.58078		0.01963
LFEP	0.05159	0.99989	0.02462	0.99975	0.11917	0.79388	0.01963	

Tukey-Kramer Multiple-Comparison Test. Means are significantly different if p-value &lt; 0.05.

IGF-1 mRNA								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	3.8459	3.131	4.6703	2.3423	3.3217	3.6743	6.9412
LF	3.8459	0	0.7148	0.8245	1.5036	0.5242	0.1716	3.0953
HFE	3.131	0.7148	0	1.5393	0.7887	0.1906	0.5433	3.8101
LFE	4.6703	0.8245	1.5393	0	2.328	1.3487	0.996	2.2708
HFP	2.3423	1.5036	0.7887	2.328	0	0.9793	1.332	4.5989
LFP	3.3217	0.5242	0.1906	1.3487	0.9793	0	0.3527	3.6195
HFEP	3.6743	0.1716	0.5433	0.996	1.332	0.3527	0	3.2669
LFEP	6.9412	3.0953	3.8101	2.2708	4.5989	3.6195	3.2669	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value &gt; 1.9600.

Hepatic <i>vtg</i> mRNA								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	0.1975	5.1559	3.193	0.3453	0.1783	6.1543	3.9482
LF	0.1975	0	4.479	2.8499	0.1149	0.0232	5.3077	3.4767
HFE	5.1559	4.479	0	1.9953	4.9464	4.6276	1.0149	1.2277
LFE	3.193	2.8499	1.9953	0	3.1964	2.9346	3.0102	0.7676
HFP	0.3453	0.1149	4.9464	3.1964	0	0.1432	5.8365	3.8697

LFP	0.1783	0.0232	4.6276	2.9346	0.1432	0	5.4888	3.5859
HFEP	6.1543	5.3077	1.0149	3.0102	5.8365	5.4888	0	2.2426
LFEP	3.9482	3.4767	1.2277	0.7676	3.8697	3.5859	2.2426	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.

Liver Somatic Index								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	0.7768	2.3006	1.1287	1.7002	2.1373	5.581	3.218
LF	0.7768	0	3.04	1.8871	2.4494	2.8793	6.267	3.9424
HFE	2.3006	3.04	0	1.1719	0.6004	0.1633	3.2804	0.9174
LFE	1.1287	1.8871	1.1719	0	0.5716	1.0086	4.4523	2.0893
HFP	1.7002	2.4494	0.6004	0.5716	0	0.4371	3.8808	1.5177
LFP	2.1373	2.8793	0.1633	1.0086	0.4371	0	3.4437	1.0807
HFEP	5.581	6.267	3.2804	4.4523	3.8808	3.4437	0	2.3631
LFEP	3.218	3.9424	0.9174	2.0893	1.5177	1.0807	2.3631	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.

Head Kidney Somatic Index								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	2.8451	1.4201	2.521	4.818	5.5376	4.0555	4.7275
LF	2.8451	0	1.4249	0.3241	1.973	2.6926	1.2105	1.8824
HFE	1.4201	1.4249	0	1.1008	3.3979	4.1175	2.6354	3.3073
LFE	2.521	0.3241	1.1008	0	2.297	3.0166	1.5345	2.2065
HFP	4.818	1.973	3.3979	2.297	0	0.7196	0.7625	0.0905
LFP	5.5376	2.6926	4.1175	3.0166	0.7196	0	1.4821	0.8101
HFEP	4.0555	1.2105	2.6354	1.5345	0.7625	1.4821	0	0.6719
LFEP	4.7275	1.8824	3.3073	2.2065	0.0905	0.8101	0.6719	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.

Splenosomatic Index								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	2.683	0.6052	3.3168	4.7799	4.5988	1.6441	4.7894
LF	2.683	0	2.0778	0.6338	2.0969	1.9158	1.0389	2.1064
HFE	0.6052	2.0778	0	2.7116	4.1746	3.9936	1.0389	4.1842
LFE	3.3168	0.6338	2.7116	0	1.463	1.2819	1.6727	1.4726
HFP	4.7799	2.0969	4.1746	1.463	0	0.1811	3.1358	0.0095
LFP	4.5988	1.9158	3.9936	1.2819	0.1811	0	2.9547	0.1906
HFEP	1.6441	1.0389	1.0389	1.6727	3.1358	2.9547	0	3.1453
LFEP	4.7894	2.1064	4.1842	1.4726	0.0095	0.1906	3.1453	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.

Trunk Kidney Somatic Index								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	1.4773	0.2335	0.8864	6.1571	4.6846	5.1992	4.5797
LF	1.4773	0	1.2438	0.5909	4.6798	3.2072	3.7219	3.1024
HFE	0.2335	1.2438	0	0.6529	5.9236	4.4511	4.9657	4.3462
LFE	0.8864	0.5909	0.6529	0	5.2707	3.7982	4.3129	3.6933
HFP	6.1571	4.6798	5.9236	5.2707	0	1.4726	0.9579	1.5774
LFP	4.6846	3.2072	4.4511	3.7982	1.4726	0	0.5147	0.1048
HFEP	5.1992	3.7219	4.9657	4.3129	0.9579	0.5147	0	0.6195
LFEP	4.5797	3.1024	4.3462	3.6933	1.5774	0.1048	0.6195	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.

Blimp-1 mRNA								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	0.9555	0.5719	1.5893	5.7331	4.8204	5.0992	5.0397
LF	0.9555	0	0.3836	0.6338	4.7775	3.8649	4.1437	4.0841
HFE	0.5719	0.3836	0	1.0175	5.1612	4.2486	4.5273	4.4678
LFE	1.5893	0.6338	1.0175	0	4.1437	3.2311	3.5099	3.4503
HFP	5.7331	4.7775	5.1612	4.1437	0	0.9126	0.6338	0.6934

LFP	4.8204	3.8649	4.2486	3.2311	0.9126	0	0.2788	0.2192
HFEP	5.0992	4.1437	4.5273	3.5099	0.6338	0.2788	0	0.0596
LFEP	5.0397	4.0841	4.4678	3.4503	0.6934	0.2192	0.0596	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.

IgM-sec mRNA								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	1.1938	0.834	0.2311	3.8935	3.1906	1.6894	2.2351
LF	1.1938	0	0.3598	0.9627	2.6997	1.9968	0.4956	1.0413
HFE	0.834	0.3598	0	0.6029	3.0596	2.3566	0.8554	1.4011
LFE	0.2311	0.9627	0.6029	0	3.6624	2.9595	1.4583	2.004
HFP	3.8935	2.6997	3.0596	3.6624	0	0.7029	2.2041	1.6584
LFP	3.1906	1.9968	2.3566	2.9595	0.7029	0	1.5012	0.9555
HFEP	1.6894	0.4956	0.8554	1.4583	2.2041	1.5012	0	0.5457
LFEP	2.2351	1.0413	1.4011	2.004	1.6584	0.9555	0.5457	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.

IL-10 mRNA								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	1.2009	1.4321	2.2279	5.7521	4.7656	6.0285	5.2803
LF	1.2009	0	0.2311	1.027	4.5511	3.5647	4.8276	4.0794
HFE	1.4321	0.2311	0	0.7959	4.32	3.3335	4.5964	3.8482
LFE	2.2279	1.027	0.7959	0	3.5242	2.5377	3.8006	3.0524
HFP	5.7521	4.5511	4.32	3.5242	0	0.9865	0.2764	0.4718
LFP	4.7656	3.5647	3.3335	2.5377	0.9865	0	1.2629	0.5147
HFEP	6.0285	4.8276	4.5964	3.8006	0.2764	1.2629	0	0.7482
LFEP	5.2803	4.0794	3.8482	3.0524	0.4718	0.5147	0.7482	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.

<i>NKEF</i> mRNA								
	HF	LF	HFE	LFE	HFP	LFP	HFEP	LFEP
HF	0	1.4083	1.1533	0.3765	3.8983	4.73	3.5719	3.3908
LF	1.4083	0	0.255	1.0318	2.4901	3.3217	2.1636	1.9825
HFE	1.1533	0.255	0	0.7768	2.745	3.5767	2.4186	2.2375
LFE	0.3765	1.0318	0.7768	0	3.5219	4.3535	3.1954	3.0143
HFP	3.8983	2.4901	2.745	3.5219	0	0.8316	0.3265	0.5075
LFP	4.73	3.3217	3.5767	4.3535	0.8316	0	1.1581	1.3392
HFEP	3.5719	2.1636	2.4186	3.1954	0.3265	1.1581	0	0.1811
LFEP	3.3908	1.9825	2.2375	3.0143	0.5075	1.3392	0.1811	0

Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test): Medians are significantly different if z-value > 1.9600.