

Table S1: List of down-regulated genes (cut-off value of log2 fold change > 0.8) in conventional cod larvae compared with germ-free cod larvae at 16 dph.

Accession number	Gene name	Description	Log2 fold change	Adjusted p-value
ENSGAUG00000005408	CUZD1	Zona pellucida-like domain-containing protein	-2.792	0.000100535
ENSGAUG00000012193	EPX	Eosinophil peroxidase peroxidase-like	-2.407	5.89E-05
ENSGAUG00000006436	EPX	Eosinophil peroxidase	-1.784	0.010355002
ENSGAUG00000015302	TMPRSS9	Transmembrane protease serine 9-like; partial ORF	-1.644	4.05E-06
ENSGAUG00000015614_3	C1QL3	Complement C1q-like protein 3-like	-1.633	0.0008
ENSGAUG00000017013	MYOC	Myocilin	-1.555	0.00324
ENSGAUG00000010274	MPO	Myeloperoxidase precursor	-1.499	0.000508003
ENSGAUG00000000611	RBL	Rhamnose-binding lectin	-1.475	4.98E-07
ENSGAUG00000004081	HCE	low choriolytic enzyme-like, predicted	-1.457	4.42E-05
ENSGAUG00000003520	SEPP1	Selenoprotein P	-1.451	0.000825
ENSGAUG00000009502	ctrb1	Uncharacterized protein	-1.256	0.01677
ENSGAUG00000005121	CYBB	Cytochrome b-245 heavy chain-like	-1.251	3.92E-05
ENSGAUG00000009693	PRSS27	Serine protease 27-like, predicted	-1.251	2.31E-05
ENSGAUG00000012542	APOD	Apolipoprotein D-like, predicted	-1.249	0.021925
ENSGAUG00000012822	ABCA12	ATP-binding cassette sub-family A member 12-like, predicted	-1.219	0.001
ENSGAUG00000001749_1	GPRC6A	G-protein coupled receptor family C group 6 member A	-1.205	4.92E-07
ENSGAUG00000011292	SPINT2	Kunitz-type protease inhibitor 2 precursor	-1.187	4.66E-05
ENSGAUG00000001749	GPRC6A	G-protein coupled receptor family C group 6 member A	-1.185	4.88E-07
ENSGAUG00000020348	FEL	Fish-egg lectin	-1.142	6.62E-05
ENSGAUG00000000775	Rhcg	Ammonium transporter Rh type C	-1.134	0.001845
ENSGAUG00000014136	PDLIM5	PDZ and LIM domain protein 5-like	-1.089	0.000235
ENSGAUG00000009769	PGLYRP1	N-acetylmuramoyl-L-alanine amidase-like	-1.065	0.000195495
ENSGAUG00000008126	ZGP16	Zymogen granule membrane protein 16	-1.061	0.00044
ENSGAUG00000010286	epx	Eosinophil peroxidase	-1.052	0.01751
ENSGAUG00000009511_1	ctrb2	Chymotrypsin B	-1.047	0.02769

ENSGAUG00000015892	ARHGAP6	Rho GTPase-activating protein 6	-1.041	7.34E-06
ENSGAUG00000013172	CeLA1	Elastase-like protein	-1.023	0.03216
ENSGAUG00000000080	CTRL	Chymotrypsin-like protease CTRL-1 precursor	-1.022	0.02384
ENSGAUG00000019115	PLD3	Phospholipase D3	-1	0.000113925
ENSGAUG00000003430	Cpa2	Carboxypeptidase A2 precursor	-0.99	0.02862
ENSGAUG00000015335	IGF1R	Insulin-like growth factor 1 receptor	-0.97	0.00041
ENSGAUG00000006000	Irg1	Immune-responsive gene 1 protein-like	-0.966	0.000154035
ENSGAUG00000006754	MOV10	Putative helicase mov-10-B.2-like, predicted	-0.961	0.01108
ENSGAUG00000000958	RNF213	RING finger protein 213-like, predicted	-0.959	0.009085
ENSGAUG00000009283	NME2	Nucleoside diphosphate kinase B isoform a	-0.946	0.015995
ENSGAUG00000007716	ZBTB4	Uncharacterized protein	-0.945	0.017470097
ENSGAUG00000008762	predicted	Uncharacterized protein	-0.936	5.69E-05
ENSGAUG00000017352	bco2	Beta,beta-carotene 9',10'-oxygenase-like, predicted	-0.935	0.007315
FF406537.1	SPINK2	Serine protease inhibitor Kazal-type 2-like, predicted	-0.929	0.00178
ENSGAUG00000016860	DSP	Desmoplakin, predicted	-0.913	0.0199
ENSGAUG00000005570	Rbp3	Retinol-binding protein 3-like	-0.913	0.00415
ENSGAUG00000017471	MSLN	Uncharacterized protein	-0.912	0.000955
ENSGAUG00000008774	OTOP2	Otopetrin-2-like	-0.909	1.75E-05
ENSGAUG00000008734	UBL1	Ubiquitin-like protein precursor	-0.902	0.02574
ENSGAUG00000001451	TRAF3IP2	Adapter protein CIKS-like, predicted	-0.901	0.00058
ENSGAUG00000007277	CRYBB1	Beta-crystallin B1-like, predicted	-0.901	0.00142
ENSGAUG00000002315	SDS	L-serine dehydratase/L-threonine deaminase-like, predicted	-0.891	0.01677
EX725973.1	SPINK1	Pancreatic secretory trypsin inhibitor	-0.889	0.00548
ENSGAUG00000014401	Cfad	Counting factor associated protein D-like, predicted	-0.885	0.002775
ENSGAUG00000012105	MYOC	Myocilin-like, predicted	-0.885	0.00214
ENSGAUG00000005518	NKX3-1	Homeobox protein Nkx-3.1-like	-0.882	0.00166
ENSGAUG00000014896	ApoL1	ApoL super family protein	-0.879	0.00037
ENSGAUG00000010299	CMPK2	UMP-CMP kinase 2, mitochondrial-like, predicted	-0.879	0.00459
ENSGAUG00000005387	predicted	Uncharacterized protein	-0.876	0.000365
ENSGAUG00000019464	LRR16A	leucine-rich repeat-containing protein 16A-like, predicted	-0.863	0.010275

ENSGAUG00000013953	RSRC2	Arginine/serine-rich coiled-coil protein 2-like, predicted	-0.86	0.015415
ENSGAUG00000011643	CFAP74	Uncharacterized protein KIAA1751 homolog, predicted	-0.857	0.0139
ENSGAUG00000012948_1	PRSS1	Trypsin-1 precursor	-0.853	0.04893
ENSGAUG00000016090	GTPBP4	Nucleolar GTP-binding protein 1, predicted	-0.851	0.004785
ENSGAUG00000007955_3	PNLIPRP1	Pancreatic lipase-related protein	-0.843	0.033135
ENSGAUG00000016793	POR	NADPH--cytochrome P450 reductase-like, predicted	-0.842	0.011765
ENSGAUG00000016899	NID2	Nidogen-2, predicted	-0.842	0.000645
ENSGAUG00000019687	DVL1	Segment polarity protein dishevelled homolog DVL-1-like isoform 2, predicted	-0.841	0.00225781
ENSGAUG00000004250	col6a1	Collagen alpha-1(VI) chain-like, predicted	-0.84	5.55E-05
ENSGAUG00000006831	CRYBA1	Beta-crystallin A1-like, predicted	-0.835	0.001375225
ENSGAUG00000009144	SErPINA1 0	Protein Z-dependent protease inhibitor-like, predicted	-0.835	0.000538925
ENSGAUG00000000514	SQSTM1	Sequestosome-1	-0.833	0.042225
ENSGAUG00000013176	CAPN3	Calpain-3-like, predicted	-0.828	0.000385
ENSGAUG00000018097	Bcl6	B-cell lymphoma 6 protein homolog, predicted	-0.826	0.00096
ENSGAUG00000000178	atp6v1b	V-type proton ATPase subunit B, brain isoform-like, predicted	-0.823	0.000495
ENSGAUG00000018340	CAPN2	Calpain-2 catalytic subunit	-0.821	0.021775
ENSGAUG00000003005	CKB	Creatine kinase B-type	-0.82	0.0011
ENSGAUG00000000260	anxa11	Annexin A11b	-0.818	0.00041
ENSGAUG00000004348	PPP3CC	Serine/threonine-protein phosphatase 2B catalytic subunit gamma isoform, predicted	-0.817	2.13E-05
ENSGAUG00000009193	and1	Actinodin1 precursor	-0.816	0.00972
ENSGAUG00000019589	crybb1	Beta-crystallin B1-like, predicted	-0.814	0.000765
ENSGAUG00000002737	IRF4	Interferon regulatory factor 4-like	-0.81	0.01243
ENSGAUG00000008523	predicted	Zona pellucida-like domain-containing protein	-0.809	0.002275
ENSGAUG00000000027	COL24A1	Collagen alpha-1(X) chain-like isoform 2, predicted	-0.802	0.02197