

Title: Effects of duration of a plant-based diet stimulus at first feeding on nutritional programming in Atlantic salmon (*Salmo salar*)

Journal: Fish Physiology and Biochemistry

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Resource 1 Sequences of gene primers used for qPCR including amplicon sizes and annealing temperatures (T_m)

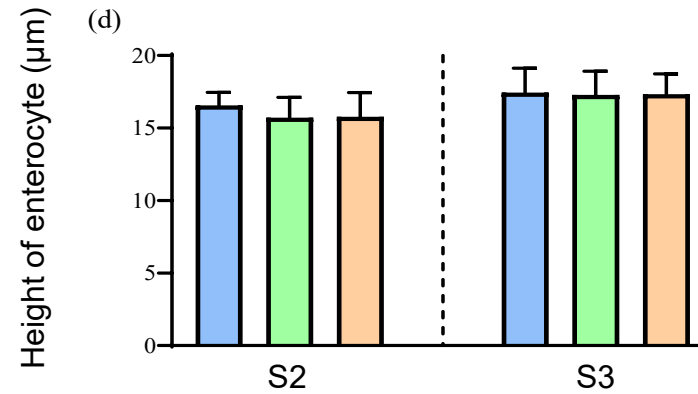
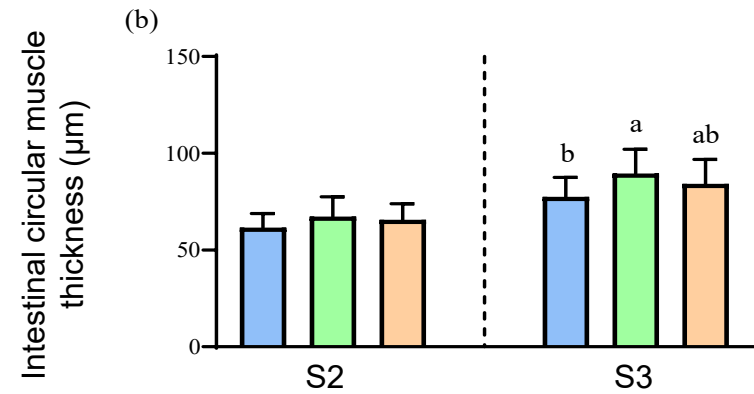
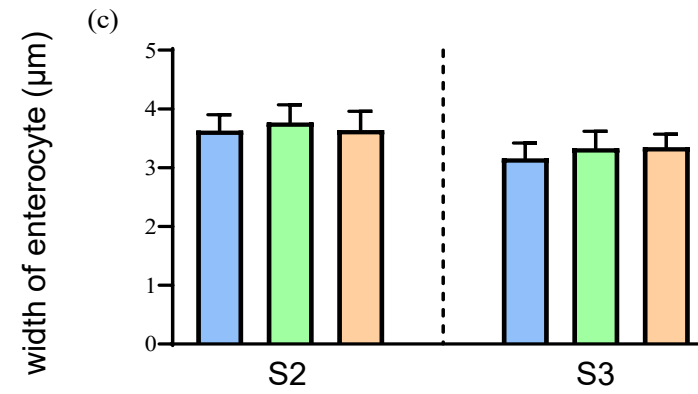
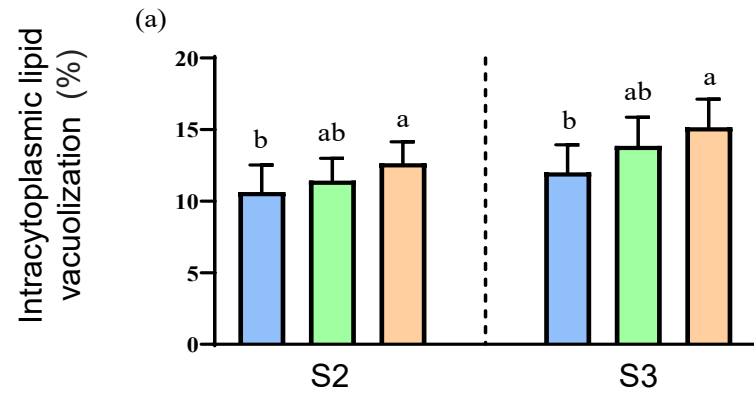
Category	Gene	Forward sequence (5'→3')	Reverse sequence (3'→5')	Amplicon	T _m (°C)	Accession no.
Fatty acid biosynthesis related	<i>elovl2</i>	GGTGCTGTGGTGGTACTACT	ACTGTTAAGAGTCGGCCCAA	190	59	NM_001136553.1 ^a
	<i>elovl5a</i>	TGTTGCTTCATTGAATGGCCA	TCCCATCTCTCCTAGCGACA	150	59	GU238431.1 ^a
	<i>elovl5b</i>	CTGTGCAGTCATTTGGCCAT	GGTGTCACCCCATTGTCATG	192	59	NM_001136552.1 ^a
	<i>fads2d5</i>	GCCACTGGTTTGTATGGGTG	TTGAGGTGTCCACTGAACCA	148	59	NM_001123542.2 ^a
	<i>fads2d6</i>	TCCTCTGGTGCCTACTTTGT	AAATCCCGTCCAGAGTCAGG	163	59	NM_001123575.2 ^a
Transcription factors	<i>lxr</i>	GCCGCCGCTATCTGAAATCTG	CAATCCGGCAACCAATCTGTAGG	210	58	FJ470290 ^a
	<i>ppara</i>	TCCTGGTGGCCTACGGATC	CGTTGAATTTTCATGGCGAACT	111	60	DQ294237 ^a
	<i>ppary</i>	CATTGTCAGCCTGTCCAGAC	TTGCAGCCCTCACAGACATG	144	60	AJ416951 ^a
	<i>srebp1</i>	GCCATGCGCAGGTTGTTTCTTCA	TCTGGCCAGGACGCATCTCACACT	151	63	TC148424 ^b
	<i>srebp2</i>	TCGCGGCCTCCTGATGATT	AGGGCTAGGTGACTGTTCTGG	147	63	TC166313 ^b
Lipid catabolism related	<i>aco</i>	AAAGCCTTCACCACATGGAC	TAGGACACGATGCCACTCAG	230	60	TC49531 ^b
	<i>cptl</i>	CCTGTACCGTGGAGACCTGT	CAGCACCTCTTTGAGGAAGG	212	60	AM230810 ^a
	<i>fas</i>	ACCGCCAAGCTCAGTGTGC	CAGGCCCCAAAGGAGTAGC	212	60	CK876943 ^a
	<i>hmgcr</i>	CCTTCAGCCATGAACTGGAT	TCCTGTCCACAGGCAATGTA	224	60	DW561983 ^a
Housekeeping genes	<i>ef1a</i>	CTGCCCCTCCAGGACGTTTACAA	CACCGGGCATAGCCGATTCC	175	60	AF321836 ^a
	<i>hprt</i>	GATGATGAGCAGGGATATGAC	GCAGAGAGCCACGATATGG	165	60	BT125296.1
	<i>rpl2</i>	CTGCCCCTCCAGGACGTTTACAA	TGTTACAGCTCGTTTACCG	112	60	XM_014137227.1 ^a

Genes of Interest: *aco*, acyl-CoA oxidase; *cptl*, carnitine palmitoyltransferase I; *elovl2*, fatty acyl elongase 2; *elovl5a*, fatty acyl elongase 5 isoform a; *elovl5b*, fatty acyl elongase isoform b; *fas*, fatty acid synthase; *fads2d5*, delta-5 fatty acyl desaturase; *fads2d6*, delta-6 fatty acyl desaturase; *hmgcr*, 3-hydroxy-3-methyl-glutaryl-CoA reductase; *lxr*, liver X receptor; *ppara*, peroxisome proliferator-activated receptor alpha; *ppary*, peroxisome proliferator-activated receptor gamma; *srebp1*, sterol regulatory element binding protein 1; *srebp2*, sterol regulatory element binding protein 2.

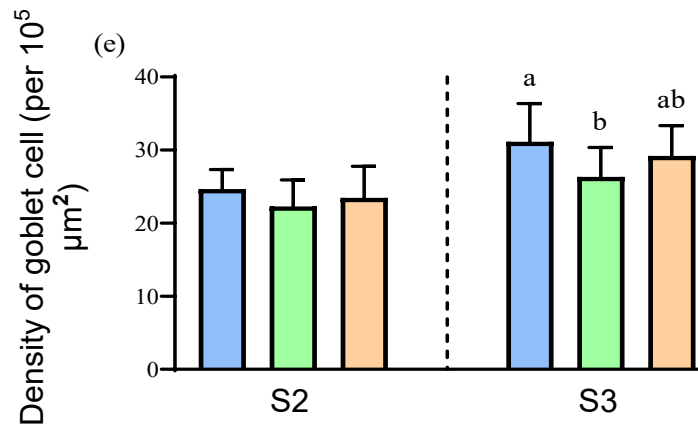
Housekeeping: *ef1a*, elongation factor 1 alpha; *hprt*, hypoxanthine-guanine phosphoribosyltransferase; *rpl2*, ribosomal protein L2; They were considered as the most stable according to the geNorm.

^aGenBank (<http://www.ncbi.nlm.nih.gov/>); ^bAtlantic salmon Gene Index (<http://compbio.dfci.harvard.edu/tgi/>)

Online Resource 2 Histological analysis of liver (a) and anterior intestine (b-e) of Atlantic salmon at the end of the challenge phase



Columns represent mean values ($n = 3$) for the three dietary groups with standard deviation represented by vertical bars. Lowercase letters above bars denote significant differences ($p < 0.05$) among dietary groups for each histological parameter at the end of the marine (S2) or challenge (S3) phases.



■ Group M
■ Group V1
■ Group V2

Online Resource 3 The vacuolization in liver of M (a) and V2 (b) and goblet cells in anterior intestine of M (c) and V1 (d) after challenge

