

<b>DEFINITIONS AND GENERAL REFERENCES</b>					
<b>Citation</b>		<b>Keyword</b>	<b>Year</b>	<b>Remarks</b>	
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3. Dohoo I, Martin WS and Stryhn H (2008). Veterinary Epidemiological Research, 2. ed. VER Inc, Charlottetown, Prince Edwards Island, Canada, 865 pp. ISBN: 978-0-919013-60-5.		epidemiology, biostatistics	2008	reference	
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5. Georgiadis MP, Gardner IA and Hedrick RP (2001). The role of epidemiology in the prevention, diagnosis, and control of infectious diseases of fish. Preventive Veterinary Medicine 48 (4, )287-302		epidemiology biostatistics	2001	general references	
6. Gibson GR, Probert HM, Loo JV, Rastall RA and Roberfroid MB (2004). Dietary modulation of the human colonic microbiota: updating the concept of prebiotics. Nutr. Res. Rev. 17, 259–275.		prebiotics	2004	definitions	
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11. Roberfroid MB (2007). Prebiotics: the concept revisited. Journal of Nutrition 137; 830 S		prebiotics	2007	definitions	
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<b>REVIEW PAPERS</b>					
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16. Blazer VS (1991). Piscine macrophages function and nutritional influences: a review. J Aquat. Animal Health 3, 77-86.		general nutrition	1991	review	
17. Gatlin III DM (2002). Nutrition and fish health. In: Halver JE, Hardy RW (eds): Fish Nutrition.		general	2002	review	

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<b>CELL WALL POLYSACCHARIDES (Glucans, MOS, inactivated yeasts)</b>					
<b>Citation</b>	<b>Species</b>	<b>Ingredient/ Additive</b>	<b>Outcomes measured</b>	<b>Year</b>	<b>Remarks</b>
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107. Siwicki AK, Anderson DP and Rumsey GL (1994). Dietary intake of immunostimulants by rainbow trout affect nonspecific immunity and protection against furunculosis. Vet Immunol Immunopathol 41, 125-139.	RT	$\beta$ -1,3/1,6 glucan yeast chitosan Vit C+E	survival immune parameters	1994	Macrogard
108. Staykov Y, Spring P, Denev S and Sweetman J (2007). Effect of mannan oligosaccharide on the growth performance and immune status of rainbow trout ( <i>Oncorhynchus mykiss</i> ). Aquaculture International 15:153-161.	RT	MOS	survival immune param	2007	Bio-MOS

109.Suomalainen LR, Bandilla M and Valtonen ET (2009). Immunostimulants in prevention of columnaris disease of rainbow trout <i>Oncorhynchus mykiss</i> (Walbaum). Journal of Fish Diseases 32 (8), 723-726	RT	inactivated yeast +selenium alginic acid	survival	2009	AlkoSel Ergosan
110.Verlhac V, Obach A, Gabaudan J, Schüep W and Hole R (1998). Immunomodulation by dietary vitamin C and glucan in rainbow trout ( <i>Oncorhynchus mykiss</i> ). Fish & Shellfish Immunology, 8, 409-428.	RT	$\beta$ -1,3/1,6 glucan Vit C	immune parameters	1998	Macrogard Rovimix Stay-C
111.Verlhac V, Gabaudan J, Obach A, Schüep W and Hole R (1996). Influence of dietary glucan and vitamin C on non-specific and specific immune responses of rainbow trout ( <i>Oncorhynchus mykiss</i> ). Aquaculture 143, 123 - 133.	RT	$\beta$ -1,3/1,6 glucan Vit C	immune parameters	1996	Macrogard Rovimix Stay-C
112.Volpatti D, Angelo LD, Jeney G, Jeney, Z. Jeney, Anderson DP and Galeotti M (1998). Nonspecific immune response in fish fed glucan diets prior to induced transportation stress. J. Appl. Ichthyol 14:201-206.	RT	unidentified glucan	immune parameters	1998	Vitastim Taito
113.Yilmaz E, Genc MA and Genc E (2007). Effects of dietary mannan oligosaccharides on growth, body composition, and intestine and liver histology of rainbow trout. <i>Oncorhynchus mykiss</i> . Isr. J. Aquaculture-Bamidgeh 59:182-188.	RT	MOS	pathology	2007	
<b>VARIOUS FURTHER IMMUNOSTIMULANTS</b>					
<b>Citation</b>	<b>Species</b>	<b>Ingredient Additive</b>	<b>Outcomes measured</b>	<b>Year</b>	<b>Remarks</b>
114.Awad E and Austin B (2010). Use of lupin, <i>Lupinus perennis</i> , mango, <i>Mangifera indica</i> , and stinging nettle, <i>Urtica dioica</i> , as feed additives to prevent <i>Aeromonas hydrophila</i> infection in rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum). J. Fish Dis. 33: 413-420.	RT	herbs	immune parameters	2010	
115.Awad E, Mitchell WJ and Austin B (2011). Effect of dietary supplements on cytokine gene expression in rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum). J. Fish Dis. 34:629-634. ).	RT	herbs	immune parameters	2011	
116.Bilen S and Bulut M (2010). Effects of laurel ( <i>Laurus nobilis</i> ) on the non-specific immune response of rainbow trout ( <i>Oncorhynchus mykiss</i> Walbaum). J. Anim. Vet. Adv. 9; 1275-1279.	RT	herbs	immune parameters	2010	
117.Gioacchini C, Smith P and Carnevali O (2008). Effects of Ergosan on the expression of cytokine genes in the liver of juvenile rainbow trout ( <i>Oncorhynchus mykiss</i> ) exposed to enteric redmouth vaccine. Veterinary Immunology and Immunopathology 123, 215-222.	RT	alginic acid	immune parameters	2008	Ergosan
118.Guttvik A, Paulsen B, Dalmo RA, Espelid S, Lund V and Bøggwald J (2002). Oral administration of lipopolysaccharide to Atlantic salmon ( <i>Salmo salar</i> L.) fry. Uptake, distribution, influence on growth and immune stimulation. Aquaculture 2002; 214:35-53.	AS	LPS	survival immune parameters	2002	
119.Muona M and Virtanen E (1993). Effect of dimethylglycine and trimethylglycine (Betaine) on the response of Atlantic salmon ( <i>Salmo salar</i> L.) smolts to experimental <i>Vibrio anguillarum</i> infection. Fish & Shellfish Immunology 3, 439-449.	AS	betaine	survival immune parameters	1995	
120.Nya E and Austin B (2009a). Use of garlic, <i>Allium sativum</i> , to control <i>Aeromonas hydrophila</i> infections in rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum). Journal of Fish Diseases 32; 963-	RT	herbs	survival	2009	



970.					
121.Nya EJ and Austin B (2009b). Use of dietary ginger, <i>Zingiber officinale</i> Roscoe, as an immunostimulant to control <i>Aeromonas hydrophila</i> infections in rainbow trout <i>Oncorhynchus mykiss</i> (Walbaum). Journal of Fish Diseases 32, 971-977.	RT	herbs	survival	2009	
122.Nya EJ and Austin B (2010). Use of bacterial polysaccharide (LPS) as an immunostimulant for the control of <i>Aeromonas hydrophila</i> infections in rainbow trout <i>Oncorhynchus mykiss</i> (Walbaum). J. Appl. Microbiol. 108, 686-694.	RT	LPS	survival immune parameters	2010	
123.Nya EJ, Dawood Z and Austin B (2010). The garlic component, allicin, prevents disease caused by <i>Aeromonas hydrophila</i> in rainbow trout <i>Oncorhynchus mykiss</i> (Walbaum). Journal of Fish Diseases 33, 293-300.	RT	herbs	survival immune parameters	2010	Allimed
124.Peddie S and Secombes CJ (2003). The immunostimulatory effect of Chevimmun on rainbow trout ( <i>Oncorhynchus mykiss</i> ). Bulletin of the EAFP 23; 48-51.	RT	herbs	immune parameters	2003	Chevimmun
125.Rahimnejad S, Agh N, Kalbassi M and Khosravi S (2011). Effect of dietary bovine lactoferrin on growth, haematology and non-specific immune response in rainbow trout ( <i>Oncorhynchus mykiss</i> ). Aquaculture Research (in press) oi:10.1111/j.1365-2109.2011.02947.x	RT	lactoferrin	immune parameters	2012	
126.Sakai M and Kobayashi MT (1995). Activation of rainbow trout, <i>Oncorhynchus mykiss</i> , phagocytic cells by administration of bovine lactoferrin. Comparative Biochemistry and Physiology 110B, 755-759.	RT	lactoferrin	immune parameters	1995	
127.Sakai M, Yoshida T and Kobayashi M (1995). Influence of the immunostimulant, EF203, on the immune responses of rainbow trout, <i>Oncorhynchus mykiss</i> , to <i>Renibacterium salmoninarum</i> . Aquaculture 138 (1-4), 61-67.	RT	antibacterial peptides	immune parameters	1995	EF203
128.Sheikhzadeh N, Nofouzi K, Delazar A and Oushani AK (2011). Immunomodulatory effects of decaffeinated green tea ( <i>Camilla sinensis</i> ) on the immune system of rainbow trout ( <i>Oncorhynchus mykiss</i> ). Fish & Shellfish Immunology 31, 1268-1269.	RT	herbs	immune parameters	2011	
129.Sheikhzadeh N, Pashaki AK, Nofouzi K, Heidarieh M and Tayefi-Nasrabadi (2012). Effects of dietary Ergosan on cutaneous mucosal immune response in rainbow trout ( <i>Oncorhynchus mykiss</i> ). Fish & Shellfish Immunology 32, 407-410	RT	alginic acid	immune parameters	2012	Ergosan
130.Suomalainen LR, Bandilla M and Valtonen ET (2009). Immunostimulants in prevention of columnaris disease of rainbow trout <i>Oncorhynchus mykiss</i> (Walbaum). Journal of Fish Diseases 32 (8), 723-726.	RT	alginic acid inactivated yeast +selenium	survival	2009	Ergosan AlkoSel
131.Suzuki K, Misakak N and Sakai DK (2006). Efficacy of green tea extract on removal of the ectoparasitic flagellate <i>Ichtyobodo necator</i> from chum salmon, <i>Oncorhynchus keta</i> , and masou salmon, <i>Oncorhynchus masou</i> . Aquaculture 259, 17-27.	ChS MS	herbs	ectoparasite load	2006	
132.Yoshida T, Sakai M, Kitao T, Soliman MK, Araki S, Saitoh R, Ineno T and Inglis V (1993). Immunomodulatory effects of the fermented products of chicken egg, EF203, on rainbow trout, <i>Oncorhynchus mykiss</i> . Aquaculture 109 (3-4); 207-214.	RT	antibacterial peptides	survival immune parameters	1993	EF203

<b>NUCLEOTIDES</b>					
<b>Citation</b>	<b>Species</b>	<b>Ingredient Additive</b>	<b>Outcomes measured</b>	<b>Year</b>	<b>Remarks</b>
133. Adamek Z, Hamackova J, Kouril J, Vachta R and Stibranyiova I (1996). Effect of Ascogen probiotics supplementation on farming success of rainbow trout ( <i>Oncorhynchus mykiss</i> ) and wels ( <i>Silurus glais</i> ) under conditions of intensive culture. <i>Krmiva (Zagreb)</i> 38: 11-20.	RT	nucleotide mix	survival	1996	Ascogen
134. Is C, Williams PD and Forno PF (2001). Dietary nucleotide: a novel supplement in fish feeds. 1. Effects on resistance to disease in salmonids. <i>Aquaculture</i> 199, 159-169.	AS RT CS	nucleotide mix $\beta$ -1,3/1,6 glucan	survival immune parameters	2001	Optimun Macrogard
135. Burrells C, Williams PD, Southgate PJ and Wadsworth SL (2001). Dietary nucleotide: a novel supplement in fish feeds. 2. Effects on vaccination, salt water transfer, growth rate and physiology of Atlantic salmon ( <i>Salmo salar</i> L.). <i>Aquaculture</i> 199, 177-184.	AS	nucleotide mix	survival immune parameters	2001	Optimun
136. Leonardi M, Sandino AM and Klempau A (2003). Effect of a nucleotide-enriched diet on the immune system, plasma cortisol levels and resistance to infectious pancreatic necrosis (IPN) in juvenile rainbow trout ( <i>Oncorhynchus mykiss</i> ). <i>Bulletin of the EAAP</i> 23(2), 52-59.	RT	nucleotide mix	survival immune parameters	2003	Optimun
137. Tacchi L, Bickerdike R, Douglas A, Secombes CJ and Martin SA (2011). Transcriptomic responses to functional feeds in Atlantic salmon ( <i>Salmo salar</i> ). <i>J Fish &amp; Shellfish Immunology</i> 31, 704-715.	AS	nucleotides MOS FOS Vit C+E	immune parameters	2011	proprietary health premix
138. Tahmasebi-Koyani A, Keyvanshokoo S, Nematollahi A, Mahmoudi N and Pasha-Zanoosi H (2011). Dietary administration of nucleotides to enhance growth, humoral immune responses, and disease resistance of the rainbow trout ( <i>Oncorhynchus mykiss</i> ) fingerlings. <i>Fish &amp; Shellfish Immunology</i> 30; 189-193.	RT	nucleotide mix	survival immune parameters	2011	Optimun Vannagen
<b>LIPIDS , BILE SALTS, ORGANIC ACID SALTS, AND OTHERS</b>					
<b>Citation</b>	<b>Species</b>	<b>Ingredient Additive</b>	<b>Outcomes measured</b>	<b>Year</b>	<b>Remarks</b>
139. Alne H, Thomassen MS, Takle H, Terjesen BF, Grammes F, Oehme M, Refstie S, Sigholt T, Berge RK and Rørvik KA (2009). Increased survival by feeding tetradecylthioacetic acid during a natural outbreak of heart and skeletal muscle inflammation in S0 Atlantic salmon, <i>Salmo salar</i> L. <i>J Fish Dis.</i> 32(11); 953-61.	AS	lipids	survival	2009	TTA carnitine
140. Bell JG, Dick DR, McVicar AH, Sargent JR and Thompson KD (1993). Dietary sunflower, linseed and fish oils affect phospholipid fatty acid composition, development of cardiac lesions, phospholipase activity and eicosanoid production in Atlantic salmon ( <i>Salmo salar</i> ). <i>Prostaglandins, Leukotrienes and Eicosanoid Fatty Acids</i> 49; 665-673.	AS	lipids	cardiac tissue pathology	1993	sunflower oil linseed oil
141. Erdal JI, Evensen Ø, Kaurstad OK, Lillehaug A, Solbakken R and Thorud K (1991). Relationship between diet and immune response in Atlantic salmon ( <i>Salmo salar</i> L.) feeding various levels of ascorbic acid and omega-3 fatty acids. <i>Aquaculture</i> 98, 363-379.	AS	lipids Vit C	immune parameters	1991	Omega-3
142. Gao Y, Storebakken T, Shearer K and Øverland M (2011). Supplementation of fishmeal and plant-protein based diets for rainbow trout with a mixture of sodium formate and butyrate. <i>Aquaculture</i> , 311, 233-240.	RT	organic acid salts	intestinal morphology	2011	butyrate sodium formate

143. Gjøen T, Kleveland EJ, Moya-Falcón C, Frøystad MK, Vegusdal A, Hvattum E, Berge RK and Ruyter B (2007). Effects of dietary thia fatty acids on lipid composition, morphology and macrophage function of Atlantic salmon ( <i>Salmo salar</i> L.) kidney. <i>Comp Biochem Physiol B Biochem Mol Biol.</i> 2007 148 (1), 103-11.	AS	lipids	immune parameters	2007	TTA DTA
144. Iwashita Y, Suzuki N, Yamamoto T, Shibata J, Isokawa K, Soon AH, Ikehata Y, Furuaia, Sugita G and Goto T (2008). Supplemental effect of cholytaurine and soybean lecithin to a soybean meal-based fish meal-free on the hepatic and intestinal morphology of rainbow trout, <i>Oncorhynchus mykiss</i> . <i>Fisheries Science</i> 74, 1083-1095..	RT	bile salts lipids	alleviation of intestinal morphology	2008	lecithin
145. Iwashita Y, Suzuki N, Matsunari H, Sugita T and Yamamoto T (2009). Influence of soya saponins, soya lectin, and cholytarine supplemented to a casein-based semipurified diet on intestinal morphology and biliary bile status in fingerling rainbow trout <i>Oncorhynchus mykiss</i> . <i>Fish. Sci.</i> 75, 1307-1315.	RT	bile salts	alleviation of intestinal pathology	2009	cholytaurine
146. Kiron V, Gunji A, Okamoto N, Satoh S, Ikeda Y and Watanabe T (1993). Dietary nutrient dependent variations on natural-killer activity of the leucocytes of rainbow trout. <i>Fish Pathol</i> 3,28: 71-76.	RT	lipids	immune parameters	1993	essential fatty acids
147. Lødemehl JB, Mayhew TM, Myklebust R, Olsen RE, Espelid S and Ringø E (2001). Effects of three dietary oils on disease susceptibility in Arctic charr ( <i>Salvelinus alpinus</i> L.) during cohabitation challenge with <i>Aeromonas salmonicida</i> subsp. <i>salmonicida</i> . <i>Aquaculture Research</i> 32, 935-945.	AC	lipids	survival	2001	
148. Olsen RE, Myklebust R, Ringø E and Mayhew TM (2000). The influence of dietary linseed oil and saturated fatty acids on caecal enterocytes in Arctic char ( <i>Salvelinus alpinus</i> L.): a quantitative ultrastructural study. <i>Fish Physiology and Biochemistry</i> 22, 207-216.	AC	lipids	intestinal morphology	2000	linseed oil saturated fatty acids
149. Romarheim OH, Skrede A, Gao YL, Krogdahl, Denstadli V, Lilleeng E and Storebakken T (2006). Comparison of white flakes and toasted soybean meal partly replacing fish meal as protein source in extruded feed for rainbow trout ( <i>Oncorhynchus mykiss</i> ). <i>Aquaculture</i> 256, 354-364.	RT	processing conditions	alleviation of intestinal pathology	2006	heat treatment
150. Rørvik KA, Alne H, Gaarder M, Ruyter B, Maaseide NP, Jakobsen JV, Berge RK, Sigholt T and Thomassen MS (2007). Does the capacity for energy utilization affect the survival of post-smolt Atlantic salmon, <i>Salmo salar</i> L., during natural outbreaks of infectious pancreatic necrosis? <i>J Fish Dis</i> 30: 399-409.	AS	lipids	survival	2007	TTA
151. Rørvik KA, Dehli A, Thomassen M, Ruyter B, Steien SH and Salte R (2003). Synergistic effects of dietary iron and omega-3 fatty acid levels on survival of farmed Atlantic salmon, <i>Salmo salar</i> L., during natural outbreaks of furunculosis and cold water vibriosis. <i>J Fish Dis.</i> 2003 26(8); 477-85.	AS	lipids	survival	2003	Omega-3
152. Rørvik KA, Steien SH, Saltkjelvik B and Thomassen MS (2000) Urea and trimethylamine oxide in diets for sea water farmed rainbow trout; effect on fat belching, skin vesicle, winter ulcer and quality grading. <i>Aquaculture Nutrition</i> 6, 247-254	RT	Urea TMAO	skin ulcers	2000	osmoregulation
153. Suzuki N and Yamamoto T (2004). Histological observation of intestinal degradation of defatted soybean diet and supplemental effect of soybean lecithin for fingerling rainbow trout, <i>Oncorhynchus mykiss</i> . <i>J Sch Mar Sci Technol Tokai Univ</i> 2 (3), 25-35. (In Japanese)..	RT	lipids	intestinal morphology	2004	lechnin
154. Iwashita Y, Yamamoto T, Goto T and Suzuki N (2007). Histological observation of liver and	RT	bile salts	alleviation of	2007	gall powder

distal intestine of fingerling rainbow trout, <i>Oncorhynchus mykiss</i> , fed defatted soybean meal based non- fish meal diet supplemented with gall powder. Aquaculture Science 55; 225-230. (In Japanese).			intestinal pathology		
155. Yamamoto T, Goto T, Kine Y, Endo Y, Kitaoka Y, Sugita T, Furuita H, Iwashita Y and Suzuki N (2008). Effect of an alcohol extract from a defatted soybean meal supplemented with a casein-based semi-purified diet on the biliary status and intestinal conditions in rainbow trout <i>Oncorhynchus mykiss</i> (Walbaum). Aquacult. Res. 39, 986-994.	RT	bile salts	alleviation of intestinal pathology	2008	bovine bile salts
156. Yamamoto T, Suzuki N, Furuita H, Sugita T, Tanaka N and Goto T (2007). Supplemental effect of bile salts to soybean meal-based diet on growth and feed utilization of rainbow trout <i>Oncorhynchus mykiss</i> . Fisheries Sci. 73, 123-131.	RT	bile salts	alleviation of intestinal pathology	2007	bovine bile salts
<b>PREBIOTICS</b>					
<b>Citation</b>	<b>Species</b>	<b>Ingredient Additive</b>	<b>Outcomes measured</b>	<b>Year</b>	<b>Remarks</b>
157. Bakke-McKellep AM, Penn MH, Salas PM, Refstie S, Sperstad S, Landsverk T, Ringø E and Krogdahl Å (2007). Effects of dietary soybean meal, inulin and oxytetracycline on gastrointestinal histological characteristics, distal intestine cell proliferation and intestinal microbiota in Atlantic salmon ( <i>Salmo salar</i> L.). Brit. J. Nutr. 97:699–713.	AS	prebiotics	pathology	2007	
158. Irianto A and Austin B (2003). Use of dead probiotic cells to control furunculosis in rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum). Journal of Fish Diseases, 26:59 - 62.	RT	prebiotics	survival morbidity	2003	
159. Kristiansen M, Merrifield DL, Gonzales Vecino JL, Myklebust R and Ringø E (2011). Evaluation of prebiotic and probiotic effects on the intestinal gut microbiota and histology of Atlantic salmon ( <i>Salmo salar</i> L.). Journal of Aquaculture Research & Development S1:009. doi: 10.4172/2155-9546.	AS	prebiotics	intestinal morphology	2011	EWOS Prebiosaal
160. Olsen RE, Myklebust R, Kryvi H, Mayhew TM and Ringø E (2001). Damaging effect of dietary inulin on intestinal enterocytes in Arctic charr ( <i>Salvelinus alpinus</i> L.). Aquacult. Res. 32:931–934.	AC	Prebiotics	pathology	2001	
161. Ringø E, Sperstad S, Myklebust R, Mayhew TM and Olsen RE (2006). The effect dietary inulin on aerobic bacteria associated with the hindgut of Arctic charr ( <i>Salvelinus alpinus</i> L.). Aquacult. Res. 37:891–897.	AC	Prebiotics	immune parameters	2006	
162. Romarheim OH, Øverland M, Mydland LT, Skrede A and Landsverk T (2011). Bacteria grown on natural gas prevent soybean meal-induced enteritis in Atlantic salmon. <i>J. Nutr.</i> 141, 124-130.	AS	prebiotic bacterial meal	pathology	2011	
163. Sørensen M, Penn M, El-Mowafi A, Storebakken T, Chunfang C, Øverland M and Krogdahl Å (2011). Effect of stachyose, raffinose and soya saponins supplementation on nutrient digestibility, digestive enzymes, gut morphology and growth performance of Atlantic salmon ( <i>Salmo salar</i> L.). Aquaculture 314,145-152.	AS	prebiotics	Intestinal morphology	2011	
<b>PROBIOTICS</b>					
<b>Citation</b>	<b>Species</b>	<b>Ingredient Additive</b>	<b>Outcomes measured</b>	<b>Year</b>	<b>Remarks</b>
164. Pieters N, Brunt J, Austin B and Lyndon AR (2008). Efficacy of in-feed probiotics against <i>Aeromonas bestiarum</i> and <i>Ichthyophthirius multifiliis</i> skin infections in rainbow trout	RT	Aereomonas sp.	survival morbidity	2008	

( <i>Oncorhynchus mykiss</i> Walbaum). J. Appl. Microbiol. 105, 723–732.		Brochotric sp. Probiotic mix			
165.Brunt J, Hansen R, Jamieson DJ and Austin B (2008). Proteomic analysis of rainbow trout ( <i>Oncorhynchus mykiss</i> Walbaum) serum after administration of probiotics in diets. Vet. Immunol. Immunopathol. 121, 199–205.	RT	Aeromonas sp Bacillus spp.	proteomics	2008	
166.Brunt J, Newaj-Fyzul A and Austin B (2007). The development of probiotics for the control of multiple bacterial diseases of rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum). J. Fish Dis. 30, 573–579.	RT	Aeromonas sp Bacillus spp.	survival morbidity	2007	
167.Irianto A and Austin B (2002b). Use of probiotics to control furunculosis in rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum). J. Fish Dis. 25, 333–342.	RT	Aeromonas sp Vibrio sp. Carnobact. sp. Probiotic mix	survival morbidity	2002	
168.Abbass A, Sharifuzzaman SM and Austin B (2010). Cellular components of probiotics control <i>Yersinia ruckeri</i> infection in rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum). Journal of Fish Diseases 33, 31-37.	RT	Aeromonas sp. Bacillus spp.	survival	2010	
169.Brunt J and Austin B (2005). Use of a probiotic to control lactococcosis and streptococcosis in rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum). J. Fish Dis. 28, 693–701.	RT	Aeromonas sp.	survival morbidity	2005	
170.Arijo S, Brunt J, Chabrillón M, Díaz-Rosales P and Austin B (2008). Subcellular components of <i>Vibrio harveyi</i> and probiotics induce immune responses in rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum), against <i>V. harveyi</i> . J. Fish Dis. 31, 579–590.	RT	Aeromonas spp.	immune paramet	2008	
171.Newaj-Fyzul A, Adesiyun AA, Mutani A, Ramsubhag A, Brunt J and Austin B (2007). <i>Bacillus subtilis</i> AB1 controls <i>Aeromonas</i> infection in rainbow trout ( <i>Oncorhynchus mykiss</i> , Walbaum). J. Appl. Microbiol. 103, 1699–1706.	RT	Bacillus sp	survival morbidity	2007	
172.Capkin E and Altinok I (2009). Effects of dietary probiotic supplementations on prevention/treatment of yersiniosis disease. J Appl Microbiol. 106:1147-1153.	RT	Bacillus sp. Enterobact. sp.	survival morbidity	2007	
173.Merrifield DL, Bradley G, Baker RTM and Davies SJ (2010b). Probiotic applications for rainbow trout ( <i>Oncorhynchus mykiss</i> Walbaum) II. Effects on growth performance, feed utilisation, intestinal microbiota and related health criteria post antibiotic treatment. Aqua. Nutr. doi:10.1111/j.1365-2095.2009.00688.x early view.	RT	Bacillus sp. enterococci	pathology	2010	
174.Merrifield DL, Bradley G, Baker RTM, Dimitroglou A and Davies SJ (2010a). Probiotic applications for rainbow trout ( <i>Oncorhynchus mykiss</i> Walbaum) I. Effects on growth performance, feed utilisation, intestinal microbiota and related health criteria. Aqua. Nutr. doi:10.1111/j.1365-2095.2009.00689.x early view.	RT	Bacillus sp. enterococci	pathology	2010	
175.Yamamoto T, Iwashita Y, Matsunari H, Sugita T, Furuita H, Akimoto A, Okamatsu K and Suzuki N (2010). Influence of fermentation conditions for soybean meal in a non-fish meal diet on the growth performance and physiological condition of rainbow trout <i>Oncorhynchus mykiss</i> . Aquaculture 309, 173-180.	RT	Bacillus sp.	intestinal morphology	2010	
176.Raida MK, Larsen JL, Nielsen ME and Buchmann K (2003). Enhanced resistance of rainbow trout, <i>Oncorhynchus mykiss</i> (Walbaum), against <i>Yersinia ruckeri</i> challenge following oral administration of <i>Bacillus subtilis</i> and <i>B. licheniformis</i> (BioPlus2B). J Fish Dis.; 26:495-498.	RT	Bacillus spp. Alginic acid	survival morbidity	2003	BioPlus2B Ergosan
177.Robertson PAW, O'Dowd C, Burrells C, Williams P and Austin B (2000). Use of <i>Carnobacterium</i> sp as a probiotic for Atlantic salmon ( <i>Salmo salar</i> L.) and rainbow trout ( <i>Oncorhynchus mykiss</i> ,	AS	Carnobact. sp.	immune paramet	2000	

Walbaum). <i>Aquaculture</i> 185: 235–243.					
178.Rodriguez-Estrada U, Satoh S, Haga Y, Fushimi H and Sweetman J (2009). Effects of single and combined supplementation of <i>Enterococcus faecalis</i> , mannan oligosaccharide and polyhydrobutyric acid on growth performance and immune response of rainbow trout <i>Oncorhynchus mykiss</i> . <i>Aquacult. Sci.</i> 57, 609–617.	RT	enterococci	immune paramet	2009	
179.Sharifuzzaman SM and Austin B (2009). Influence of probiotic feeding duration on disease resistance and immune parameters in rainbow trout. <i>Fish &amp; Shellfish Immunology</i> 27, 440-445.	RT	enterococci	survival immune parameters	2009	Kocuria SM1
180.Sharifuzzaman SM and Austin B (2010). <i>Kocuria SM1 controls vibriosis in rainbow trout (Oncorhynchus mykiss Walbaum)</i> . <i>Journal of Applied Microbiology</i> 108 (6), 2162–2170 , DOI: 10.1111/j.1365-2672.2009.04618.x	RT	enterococci	survival morbidity	2010	Kocuria SM1
181.Sharifuzzaman, SM and Austin B (2010). Development of protection in rainbow trout ( <i>Oncorhynchus mykiss</i> Walbaum) to <i>Vibrio anguillarum</i> following the use of Kocuria 8 SM1. <i>Fish &amp; Shellfish Immunology</i> 29, 212-216.	RT	enterococci	survival morbidity	2010	Kocuria SM1
182.Sharifuzzaman SM, Abbass A, Tinsley JW and Austin B (2009). Subcellular components of probiotics Kocuria SM1 and Rhodococcus SM2 induce protective immunity in rainbow trout ( <i>Oncorhynchus mykiss</i> Walbaum) against <i>Vibrio anguillarum</i> . <i>Fish &amp; Shellfish Immunology</i> 30, 347-353.	RT	enterococci	survival morbidity	2010	Kocuria SM1
183.Burbank DR, Shah DH, La Patra SE, Fornshell G and Cain KD (2011). Enhanced resistance to coldwater diseases following feeding of probiotic strains to rainbow trout <i>Oncorhynchus mykiss</i> . <i>Aquaculture</i> 321; 185-190.	RT	entoerococci	survival	2011	
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186.Balcázar JL, Vendrell D, de Blas I, Ruiz-Zarzuela I and Múzquiz JL. (2009). Effect of <i>Lactococcus lactis</i> CLFP 100 and <i>Leuconostoc mesenteroides</i> CLFP 196 on <i>Aeromonas salmonicida</i> infection in brown trout ( <i>Salmo trutta</i> ). <i>J Mol Microbiol Biotechnol</i> ; 17:153-157.	BT	lactic acid bacteria Leucostonc sp.	survival morbidity	2009	
187.Balcázar JL, de Blas I, Ruiz-Zazuela I, Calvo AC, Márquez I, Gironés O and Muzquiz JL (2007a). Changes in intestinal microbiota and humoral immune response following probiotic administration in brown trout ( <i>Salmo trutta</i> ). <i>Brit. J. Nutr.</i> 97, 522–552.	BT	lactic acid bacteria Leucostonc sp.	immune parameters	2007	
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193.Nikoskelainen S, Ouwehand A. Salminen S and Bylund G (2001). Protection of rainbow trout ( <i>Oncorhynchus mykiss</i> ) from furunculosis by <i>Lactobacillus rhamnosus</i> . <i>Aquaculture</i> 198, 229-236.	RT	lactic acid bacteria	survival morbidity	2001	
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197.Panigrahi A, Kiron V, Puangkaew J, Kobayashi T, Satoh S and Sugita H (2005). The viability of probiotic bacteria as a factor influencing the immune response in rainbow trout <i>Oncorhynchus mykiss</i> . <i>Aquaculture</i> 243, 241–254.	RT	lactic acid bacteria	immune parameters	2005	
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201.Vendrell D, Balcázar JL, de Blas I, Ruiz-Zarzuola I, Gironés O and Múzquiz JL (2008). Protection of rainbow trout ( <i>Oncorhynchus mykiss</i> ) from lactococcosis by probiotic bacteria. <i>Comp Immunol Microbiol Infect Dis</i> , 31:337-45.	RT	lactic acid bacteria Leucostonc sp.	survival morbidity	2008	
202.Arndt RE and Wagner EJ (2007). Enriched Artemia and probiotic diets improve survival of Colorado River cutthroat trout larvae and fry. <i>North American Journal of Aquaculture</i> 69, 190-196.	CtT	lactic acid bacteria lipids	survival	2007	Omega-3
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salmon ( <i>Salmo salar</i> ). Aquaculture 246, 331-345.					
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212. Barnes ME, Fletcher B, Durben DJ and Reeves SG (2007). Effects of a proprietary yeast supplement during rearing of two strains of juvenile rainbow trout and juvenile lake trout. Proceedings of the South Dakota Academy of Science 86; 89-98.	RT LT	yeast	survival	2007	DVAqua
213. Barnes ME and Durben DJ (2010). An evaluation of DVAqua®, a fully-fermented yeast culture, during long-term hatchery rearing of McConaughy strain rainbow trout. Aqua Nutr 16; 299-304.	RT	yeast	survival	2010	DVAqua
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216. Tukmechi A, Rahmati Andani HR, Manaffar R and Sheikhzadeh (2011). Dietary administration of beta-mercapto-ethanol treated <i>Saccharomyces cerevisiae</i> enhanced the growth, innate immune response and disease resistance of rainbow trout, <i>Oncorhynchus mykiss</i> . Fish & Shellfish Immunology 30, 923-928.	RT	yeast	survival immune parameters	2011	



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<b>VITAMINS</b>					
<b>Citation</b>	<b>Species</b>	<b>Ingredient Additive</b>	<b>Outcomes measured</b>	<b>Year</b>	<b>Remarks</b>
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219.Amar EC, Kiron V, Okamoto N, Satoh S and Watanabe T (2000). Effects of $\beta$ -carotene on the immune response of rainbow trout ( <i>Oncorhynchus mykiss</i> ) <i>Fisheries Science</i> 66, 1068-1075.	RT	carotenoids	immune parameters	2000	
220.Amar EC, Kiron V, Satoh S and Watanabe T (2001). Influence of various dietary synthetic carotenoids on bio-defense mechanisms in rainbow trout ( <i>Oncorhynchus mykiss</i> Walbaum) associated with dietary intake of carotenoids from natural products. <i>Fish and Shellfish Immunology</i> 16, 527-537.	RT	carotenoids	immune parameters	2001	
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trout fed high levels of vitamin C. <i>Aquaculture</i> 79, 207-221.			immune parameters		
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237. Wahli T, Verlhac V, Gabaudan J, Meier W and Schüep W (1998). Influence of combined vitamins C and E on immunity and disease resistance of rainbow trout ( <i>Oncorhynchus mykiss</i> ). <i>J Fish Dis</i> 21, 127-137.	RT	Vit C+E	survival morbidity immune parameters	1998	Rovimix-Stay C
238. Waagbø R, Glette J, Nilsen ER and Sandnes K (1993). Dietary vitamin C, immunity and disease resistance in Atlantic salmon ( <i>Salmo salar</i> ). <i>J Fish Physiol Biochem</i> 12, 61-73.	AS	Vit C glucan	survival morbidity immune paramet	1993	