

## DAFTAR PUSTAKA

- Abbasiliasi, S., Tan, J. S., Kadkhodaei, S., Nelofer, R., T Ibrahim, T. A. T., Mustafa, S. & B. Ariff, A. B., 2016, Enhancement of BLIS production by *Pediococcus acidilactici* kp10 in optimized fermentation conditions using an artificial neural network, *RSC Advances*, 6:6342-6349
- Adel, M., El-Sayed, A. M., Yeganeh, S., Dadar, M. & Giri, S.S., 2016, Effect of Potential Probiotic *Lactococcus lactis* Subsp. *lactis* on Growth Performance, Intestinal Microbiota, Digestive Enzyme Activities, and Disease Resistance of *Litopenaeus vannamei*, *Probiotics and Antimicrobial Proteins* doi:10.1007/s12602-016-9235-9.
- Aguirre-Ezkauriatza, E. J., Aguilar-Yáñez, J. M., Ramírez-Medrano, A. & Alvarez, M. M., 2010, Production of Probiotic Biomass (*Lactobacillus casei*) in Goat Milk Whey: Comparison of Batch, Continuous and Fed-batch Cultures, *Bioresource Technology*, 101(8) : 2837–2844.
- Aguirre-Guzmán, G., Lara-Flores, M., Sánchez-Martínez, J. G., Campa-Córdova, A. I. & Luna-González, A., 2012, The Use of Probiotics in Aquatic Organisms: A review, *African Journal of Microbiology Research*, 6(23) : 4845-4857.
- Aguirre-Guzman, G., Sanchez-Martinez, J. G., Campa-Cordova, A. I., Luna-Gonzalez, A. & Ascencio, F., 2009, Penaeid Shrimp Immune System, *Thai Journal of Veterinary Medicine*, 39(3) : 205-215.
- Aguirre-Guzman, G., Sanchez-Martinez, Y. G., Perez-Castaneda, R., Palacios-Monzon, A., Trujillo-Rodriguez, T. & de la Cruz-Hernandez, N. I, 2010, Pathogenicity and Infection Route of *Vibrio parahaemolyticus* in American White Shrimp, *Litopenaeus vannamei*, *The Journal of the World Aquaculture Society*, 41(3).
- Ahmed, T., Kanwal, R. & Ayub, N., 2006, Influence of Temperature on Growth Pattern of *Lactococcus lactis*, *Streptococcus cremoris* and *Lactobacillus acidophilus* Isolated from Camel Milk, *Biotechnology*, 5 : 481-488.
- Ajitha, S., Sridhar, M., Sridhar, N., Singh, I. S. B. & Varghese, V., 2004, Probiotic Effects of Lactic Acid Bacteria Against *Vibrio Alginolyticus* in *Penaeus (Fenneropenaeus) Indicus* (H.Milne Edwards), *Asian Fisheries Science*, 17 : 71-80.
- Akter, N., Parvez, I. & Patwary, Z. P., 2016, Beneficial Effects of Probiotics in Aquaculture, *International Journal of Fisheries and Aquatic Studies*, 4(5) : 494-499.

- Alakomi, H. L., Skytta, E., Saarela, M., Mattila-Sandholm, T., Latva-Kala, K. Aguirre-Guzmán, G., M., Lara-Flores, J. G., Sánchez-Martínez, A. I. & Campa-Córdova, 2012, The Use of Probiotics in Aquatic Organisms: A review, *African Journal of Microbiology Research*, 6 : 4845-4857.
- Alam, S. I., Kamran, M., Sohail, M., Ahmad, A. & Khan, S. A., 2011, Partial Characterization of Bacteriocin Like Inhibitory Substance from *Bacillus Subtilis* Bs15, a Local Soil Isolate, *Pakistan Journal of Botany*, 43(4) : 2195-2199.
- Alvarez-Sieiro, P., Montalbán-López, M., Mu, D., Montalbán-López, M., Mu, D., & Kuipers, O.P., 2016, Bacteriocins of lactic acid bacteria: extending the family *Applied of Microbiology & Biotechnology*, 100: 2939. doi:10.1007/s00253-016-7343-9
- Amara, A. A. & Shibl, A., 2015, Role of Probiotics in Health Improvement, Infection Control and Disease Treatment and Management, *The Saudi Pharmaceutical Journal*. 23(2) : 107-114.
- Angmo K., Kumari A., Savitri A. & Bhalla T.C. (2016). Probiotic characterization of lactic acid bacteria isolated from fermented foods and beverage of Ladakh. *LWT-Food Science and Technology*. 66: 428-432.
- Anvari, M., Khayati, G. & Rostami, S., 2014, Optimisation of Medium Composition for Probiotic Biomass Production Using Response Surface Methodology, *Journal of Dairy Research*81(1) : 59–64.
- Arisa, I. I., Widanarni, W., Yuhana, M., Muchlisin, Z. A. & Muhammadar, A. A., 2015, The Application of Probiotics, Prebiotics and Synbiotics to Enhance the Immune Responses of *Vannamei* Shrimp (*Litopenaeus vannamei*) to *Vibrio harveyi* Infection, *Aquaculture, Aquarium, Conservation & Legislation International Journal of the Bioflux Society*, 8(5) : 772-778.
- ASC, 2014, Shrimp Standard Version 1.0 March 2014, *ASC Shrimp Standard by Aquaculture Stewardship Council, Netherland*.
- Ashraf, R. , Vasiljevic, T., Smith, S. C. & Donkor O. N., 2014, Effect of cell-surface components and metabolites of lactic acid bacteria and probiotic organisms on cytokine production and induction of CD25 expression in human peripheral mononuclear cells, *Journal of Dairy Science* 97(5):2542-58

- Ashraf, R., Vasiljevic, Y., Smith, S.C. & Donkor, O. N., 2014, Effect of cell-surface components and metabolites of lactic acid bacteria and probiotic organisms on cytokine production and induction of CD25 expression in human peripheral mononuclear cells, *Journal of Dairy Science*, 97(5): 2542-2558
- Assavalapsakul, W. & Panyim, S., 2012, Molecular Cloning and Tissue Distribution of the Toll Receptor in the Black Tiger Shrimp, *Penaeus monodon*, *Genetics and Molecular Research*, 11 (1) : 484-493.
- Ayodeji A. A., Yomla, R., Jaramillo-Torres, A., Rodiles, A., Merrield, D.L. & Davies, S. J., 2016, Combined Effects of Exogenous Enzymes and Probiotic on Nile Tilapia (*Oreochromis niloticus*) Growth, Intestinal Morphology and Microbiome, *Aquaculture*, 463 : 61–70.
- Azirah, M. Z. N., Marini, I., Murni, K., Harmin, S. A., M. & Ina-Salwany, Y., 2016, Extracellular Enzyme Production of Probiotic *Bacillus* JAQ04 and *Micrococcus* JAQ07 isolated from tiger grouper (*Epinephelus fuscoguttatus*), *International Journal of Chemical, Environmental and Biological Sciences*, 4(1) : 2320–4087.
- Balamurugan, R., Chandragunasekaran, A.S., Chellappan, G., Rajaram, K., Ramamoorthi, G. & Ramakrishna, B. S., 2014, Probiotic Potential of Lactic Acid Bacteria Present in Home Made Curd in Southern India, *Indian Journal Medical Research*, 140(3) : 345–355.
- Balcázar J. L., Rojas-Luna, T. & Cunningham, D. P., 2007, Effect of the Addition of Four Potential Probiotic Strains on the Survival of Pacific White Shrimp (*Litopenaeus vannamei*) Following Immersion Challenge with *Vibrio parahaemolyticus*, *Journal of Invertebrate Pathology*, 96(2) : 147-50.
- Balcazar, J. L., de Blas, I., Ruiz-Zarzuola, I., Cunningham, D., Vendrell, D. & Mu'zquiz, J. L., 2006a, The Role of Probiotics in Aquaculture, *Veterinary Microbiology*, 114 : 173–186.
- Balcázar, J., Decamp, O., Vendrell, D., De Blas, I. & Ruiz-Zarzuola, I., 2006b, Health and Nutritional Properties of Probiotics in Fish and Shellfish, *Microbial Ecology in Health and Disease*, 18 : 65-70.
- Banerjee, S., Ooi, M. C., Shariff, M. & Khatoon, H., 2012, Antibiotic Resistant *Salmonella* and *Vibrio* Associated with Farmed *Litopenaeus vannamei*, *Scientific World Journal*, 2012 : 130-136.

- Basir, B. & Nursyahrhan, 2015, Respon Sinbiotik Probiotik (BAL) Dan Prebiotik Terhadap Laju Pertumbuhan Udang Vanamei (*Litopenaeus vannamei*), *Proseding Seminar Sains & Teknologi VI 03 November 2015 Inovasi Sains Dan Teknologi Untuk Ketahanan Pangan Dan Kemandirian Energi* Prosiding ISBN : 978-602-0860-02-2 Lembaga Penelitian Dan Pengabdian Kepada Masyarakat Universitas Lampung, p. 23-35.
- Bastos, M. C. F., Coelho, M. L. V. & Santos, O. C. S., 2015, Resistance to Bacteriocins Produced by Gram-Positive Bacteria, *Microbiology*, 161 : 683–700.
- Batdorj, B., Dalgalarondo, M., Choiset, Y., Pedroche, J., Metro, F. & Prevost, H., 2006, Purification and Characterization of Two Bacteriocins Produced by Lactic Acid Bacteria Isolated from Mongolian Airag, *Journal of Applied Microbiology*, 101 : 837–848.
- Benkerroum, N., Ghouati, Y. & Ghalfi, H., 2007, Screening for Bacteriocin-producing Lactic Acid Bacteria from Various Moroccan Food Products and Partial Characterization of Putative Bacteriocins, *Biotechnology*, 6(4) : 481-488.
- Bezeková, J., Domig, K. J., Lavová, M. & Čanigová, M., 2013, Phenotypic and Genotypic Identification of NSLAB from Raw Cow Milk, *Journal of Animal Science and Biotechnology*, 46 (2) : 87-92.
- Bjorklund, H. V., Rabergh, C. M. & Bylund, G., 1991, Residue of Oxonic Acid and Oxytetracycline in Fish and Sediment from Fish Farm, *Aquaculture*, 97 : 85-96.
- Bjorklund, H., Bonderstam, J. & Bylund, G., 1990, Residue of Oxytetracycline in Wild Fish and Sediment from Fish Farm, *Aquaculture*, 86 : 359-367.
- Blachier, F., Davila, A. M. , Mimoun, S., Benetti, P.H. , Atanasiu, C. & Andriamihaja, M., 2010, Luminal Sulfide and Large Intestine Mucosa: Friend or Foe? *Amino Acids*, 39 : 335–347.
- Bloch, E. F., Schultz, R. D. & Turner, W., 2013, Mini-Review: Probiotics and Disease Prevention in Different Host Systems, *British Microbiology Research Journal*, 3(1) : 42-57.
- Boekhorst, J., Helmer, Q., Kleerebezem, M. & Siezen, R. J., 2006, Comparative Analysis of Proteins with a Mucus-Binding Domain Exclusively in Lactic Acid Bacteria, *Microbiology*, 152 : 273-280.
- Bogale, A. T. & Prapulla, S.G., 2015, Studies on Amylase from Probiotic Lactic Acid Bacteria, *International Journal of Modern Chemistry and Applied Science*, 2(4) : 211-214.

- Bourouni, O. C., Bour, M. E., Mraouna, R., Abdennaceur, H. & Boudabous, A., 2007, Preliminary Selection Study of Potential Probiotic Bacteria from Aquacultural Area in Tunisia, *Annals of Microbiology*, 57 : 185-190.
- Boyd, M.A., Antonio, M.A. D. & Hillier, S.H., 2005, Comparison of API 50 CH Strips to Whole-Chromosomal DNA Probes for Identification of *Lactobacillus* Species , *Journal of Clinical Microbiology*, 43 (10) : 5309–5311.
- BPOM, 2005, Peraturan Kepala Badan Pengawas Obat dan Makanan Republik Indonesia No. hk 00.05.52.0685, Tentang Ketentuan Pokok Pengawasan Pangan Fungsional.
- Burge, E. J., Madigan, D. J., Burnett, L. E. & Burnett, K. G., 2007, Lysozyme Gene Expression by Hemocytes of Pacific white Shrimp, *Litopenaeus vannamei*, after Injection with *Vibrio*, *Fish & Shellfish Immunology*, 22 : 327-339.
- Carvajal-Zarrabal, O., Nolasco-Hipólito, C., Bujang, K. B. & Ishizaki, A., 2009, Production of Nisin Z using *Lactococcus lactis* IO-1 from Hydrolyzed Sago Starch, *Journal of Industrial Microbiology and Biotechnology*, 36 (3) : 409-415.
- Castex, M., Chim, L., Pham, D., Lemaire, P., Wabete, N., Nicolas, J., Schmidely, P. & Mariojous, C., 2008, Probiotic *P. acidilactici* Application in Shrimp *Litopenaeus stylirostris* Culture Subject to Vibriosis in New Caledonia, *Aquaculture* 275 : 182–193.
- Castex, M., Lemaire, P., Wabete, N. & Chim, L., 2009, Effect of Dietary Probiotic *Pediococcus acidilactici* on Antioxidant Defences and Oxidative Stress Status of shrimp *Litopenaeus stylirostris*, *Aquaculture*, 294, (3–4) : 306-313.
- Castillo, S., Rosales, M., Pohlenz, C. & Gatlin, D. M., 2014, Effects of Organic Acids on Growth Performance and Digestive Enzyme Activities of Juvenile Red Drum *Sciaenops ocellatus*, *Aquaculture*, 433 : 6–12.
- Chai, P. C., Song, X. L., Chen, G. F., Xu, H. & Huang, J., 2016, Dietary Supplementation Of Probiotic *Bacillus* PC465 Isolated from the Gut Of *Fenneropenaeus Chinensis* Improves the Health Status And Resistance Of *Litopenaeus Vannamei* Against White Spot Syndrome Virus, *Fish & Shellfish Immunology*, 54 : 602-611.
- Chakravorty, P. A. S., Helb, D., Burday, M., Connell, N. & Alland, D., 2007, A Detailed Analysis of 16S Ribosomal RNA Gene Segments for The Diagnosis of Pathogenic Bacteria, *Journal of Microbiological Methods*, 69(2) : 330–339.

- Chandran, M. N., Iyapparaj, P., Moveendhan, S., Ramasubburayan, R., Prakash, S., Immanuel, G. & Palavesam, A., 2014, Influence of Probiotic Bacterium *Bacillus Cereus* Isolated from the Gut of Wild Shrimp *Penaeus monodon* in Turn as A Potent Growth Promoter and Immune Enhancer in *P. Monodon*, *Fish & Shellfish Immunology*, 36 : 38-45.
- Chapot-Chartier , M. P. & Kulakauskas, S., 2014, Cell Wall Structure and Function in Lactic Acid Bacteria, *Microbial Cell Factories*, 13 (1) : S9.
- Cheigh, C. I., Choi, H. J., Park, H., Kim, S. B., Kook, M. C., Kim, T. S., Hwang, J. K. & Pyun, Y. R., 2002, Influence of Growth Conditions on the Production of A Nisin-Like Bacteriocin by *Lactococcus lactis* subsp. *lactis* A164 Isolated from kimchi, *Journal of Biotechnology*, 95 : 225–235.
- Cheigh, C. I., Park, H., Choi, H. J. & Pyun, Y. R., 2005, Enhanced Nisin Production by increasing Genes Involved in Nisin Z Biosynthesis in *Lactococcus lactis* subsp *lactis* A164, *Biotechnology Letters*, 27 : 155–160.
- Cheng, W, Liu, H. C., Tsai, C. H. & Chen, J. C., 2005, Molecular Cloning and Characterisation of A Pattern Recognition Molecule, Lipopolysaccharide- and Beta-1,3-glucan Binding Protein (LGBP) from the White Shrimp *Litopenaeus vannamei*, *Fish & Shellfish Immunology*, 18(4) : 297-310.
- Chiang, M.L., Chen, H.C., Chen, K.N., Lin, Y.C., Lin, Y.T. & Chen, M.J. 2015. Optimizing Production of Two Potential Probiotic Lactobacilli Strains Isolated from Piglet Feces as Feed Additives for Weaned Piglets, *Asian Australasian Journal of Animal Sciences*, 28 (8) : 1163–1170.
- Chiu, C. H., Guu, Y. K., Liu, C. H., Pan, T. M. & Cheng, W., 2007, Immune Responses and Gene Expression in White Shrimp, *Litopenaeus vannamei*, Induced by *Lactobacillus plantarum*, *Fish & Shellfish Immunology* 23(2) : 364-77.
- Christensen, H., Kuhnert, P., Busse, J. H., Frederiksen, W. C. & Bisgaard, M., 2007, Proposed Minimal Standards for the Description of Genera, Species and Subspecies of the Pasteurellaceae, *International Journal of Systematic and Evolutionary Microbiology*. 57 : 166 -178.
- Chu, H. & Mazmania, S.K., 2013, Innate Immune Recognition of the Microbiota Promotes Host-Microbial Symbiosis, *Nature Immunology*, 14(7) : 668–675.
- Collado, M. C., Isolauri, E., Salminen, S. & Sanz, Y., 2009, The impact of Probiotic on Gut Health. *Current Drug Metabolism*, 10 : 68-78.

- Coscia, M. R., Giacomelli, S. & Oreste, U., 2011, Toll-like Receptors: an Overview from Invertebrates to Vertebrates, *Information Systems Journal*, 8 : 210-226.
- Cotter, P. D. & Hill, C., 2003, Surviving the Acid Test: Responses of Gram-Positive Bacteria to Low pH, *Microbiology and Molecular Biology Reviews*, 67 : 429-453.
- Coyne, R., Hiney, M., O'Connor, B., Kerry, J., Cazabon, D. & Smith, P., 1994, Concentration and Persistence of Oxytetracycline In Sediments Under A Marine Salmon Farm, *Aquaculture* 123 : 31-42.
- Cruz, P.M., Ibanez, A. L., MonroyHermosillo, O. A. & Saad, H. C. R., 2012, Use of Probiotics in Aquaculture, *ISRN Microbiology*, Article ID 916845, 13 pages, <http://dx.doi.org/10.5402/2012/916845>
- Cunningham, E., O'Byrne, C. & Oliver, J. D., 2009, Effect of Weak Acids on *Listeria Monocytogenes* Survival: Evidence for A Viable but Nonculturable State in Response to Low pH, *Food Control* 20 : 1141-1144.
- da Silva, B. C., Vieira, F. d. N., Mouriño, J. L. P., Bolivar, N. & Seiffert, W. Q., 2016, Butyrate and Propionate Improve the Growth Performance of *Litopenaeus vannamei*, *Aquaculture Research*, 47 : 612-623.
- da Silva, B.C., Vieira, F.N., Mouriño, J.L.P., Ferreira, G.S. & Seiffert, W.Q., 2013, Salts of Organic Acids Selection by Multiple Characteristics for Marine Shrimp Nutrition, *Aquaculture*, 384-387 : 104-110.
- da Silva, B.C., Nolasco-Soria, H., Magallón-Barajas, F., Civera-Cerecedo, R., Casillas-Hernández, R. & Seiffert, W., 2016, Improved Digestion and Initial Performance of Whiteleg Shrimp Using Organic Salt Supplements, *Aquaculture Nutrition*, 22 : 997-1005.
- da Silva, B.C., Vieira, F.N., Mouriño, J.L.P., Bolivar, N. & Seiffert, W.Q., 2015, Butyrate and Propionate Improve the Growth Performance of *Litopenaeus vannamei*, *Aquaculture Research*, <http://dx.doi.org/10.1111/are.12520> (in press).
- Daba, H., Pandian, S., Gosselin, J. F., Simard, R. E., Huang, J. & Lacroix, C., 1991, Detection and Activity of A Bacteriocin Produced by *Leuconostoc mesenteroides*, *Applied and Environmental Microbiology*, 57 : 3450-3455.
- Dasarathy, D., Mookerjee, R. P., Rackayova, V., Thrane, V. R., Vairappan, B., Ott, P. & Rose, C. F., 2016, Ammonia Toxicity: from Head to Toe?, *Metabolic Brain Disease*, doi:10.1007/s11011-016-9938-3.

- Dash G., Raman, R. P., Prasad, K. P. Makesh, M., Pradeep, M. & Sen. S, 2014, Evaluation of *Lactobacillus plantarum* as Feed Supplement on Host Associated Microflora, Growth, Feed Efficiency, Carcass Biochemical Composition and Immune Response of Giant Freshwater Prawn, *Macrobrachium rosenbergii* (de Man, 1879), *Aquaculture*, 432 : 225-236.
- Dash, G., Raman, R. P., Prasad, K. P., Makesh, M., Pradeep, M. A., Sen, S., 2015, Evaluation of Paraprobiotic Applicability of *Lactobacillus plantarum* in Improving the Immune Response and Disease Protection in Giant Freshwater Prawn, *Macrobrachium rosenbergii* (de Man, 1879), *Fish & Shellfish Immunology*, 43 ( 1 ) : 167-174.
- Dawood, M. A. O., Koshio, S., Ishikawa, M. & Yokoyama, S., 2015, Interaction effects of dietary supplementation of heat-killed *Lactobacillus plantarum* and  $\beta$ -glucan on growth performance, digestibility and immune response of juvenile red sea bream, *Pagrus major*, *Fish & Shellfish Immunology*, 45 (1):33-42
- Dawood, M. A. O., Koshio, S., Ishikawa, M. & Yokoyama, S., 2016, Immune responses and stress resistance in red sea bream, *Pagrus major*, after oral administration of heat-killed *Lactobacillus plantarum* and vitamin C, *Fish & Shellfish Immunology*, 54:266-275.
- De Leon, S. P., Inoue, N. & Bull, H. S., 1993, Effect of Acetic and Citric Acids on the Growth and Activity (VB-N) of *Pseudomonas* sp. and *Moraxella* sp, *Bulletin Of The Faculty of Fisheries Hokkaido University*, 44(2) : 80-85.
- De Schryver P, Defoirdt T, & Sorgeloos P, 2014, Early Mortality Syndrome Outbreaks: A Microbial Management Issue in Shrimp Farming? *PLoS Pathogen* 10(4): e1003919. <https://doi.org/10.1371/journal.ppat.1003919>
- De Souza, D. M., Suita, S. M., Leite, F .P. L., Romano, L. A., Wasielesky, W. & Ballester, E. L.C., 2012, The Use of Probiotics During the Nursery Rearing of the Pink Shrimp *Farfantepenaeus brasiliensis* (Latreille, 1817) in A Zero Exchange System, *Aquaculture Research*, 43 : 1828-1837.
- De Vuyst, L., Callewaert, R. & Crabbe, K., 1996, Primary Metabolite Kinetics of Bacteriocin Biosynthesis by *Lactobacillus amylovorus* and Evidence for Stimulation of Bacteriocin Production Under Unfavourable Growth Conditions , *Microbiology*, 142 : 817-827.
- Dhasarathan, P., Paulsi, S. & Harish, A. H. M., 2013, Expression of TLR and  $\beta$ -actin in Shrimp (*Penaeus monodon*) Tissues Induced by in vivo Infection with *Vibrio* species, *Asian Journal of Microbiology Biotechnology & Environmental Sciences*, 15(1) : 159-164.

- Dobson, A., Cotter, P. D., Ross, R. P. & Hill, C., 2012, Bacteriocin Production: a Probiotic Trait?, *Applied and Environmental Microbiology*, 78 : (1 1-6).
- Dong, H.B., Su, Y.Q., Mao, Y., You, X.X., Ding, S.X. & Wang, J., 2013, Dietary Supplementation with *Bacillus* can Improve the Growth and Survival of the Kuruma Shrimp *Marsupenaeus japonicas* in High-temperature Environments, *Aquacultur International* : 1-11.
- Donkora, O. N., Henriksson, A., Vasiljevic, T. & Shah, N. P., 2007, Proteolytic Activity of Dairy Lactic Acid Bacteria and Probiotics as Determinant of Growth and in vitro Angiotensin-converting Enzyme Inhibitory Activity in Fermented Milk, *Lait*, 86: 21–38.
- Drancourt, M. & Raoult, D., 2005, Sequence-Based Identification of New Bacteria: a Proposition for Creation of an Orphan Bacterium Repository, *Journal of Clinical Microbiology*, 43 (9) : 4311–4315.
- Du, J, Xiao, K., Huang, Y., Li, H., Tan, H., Cao, L., Lu, Y. & Zhou, S., 2011, Seasonal and Spatial Diversity of Microbial Communities in Marine Sediments of the South China Sea, *Antonie Van Leeuwenhoek*.100(3) : 317-31.
- Du, J., Xiao, K., Li, L., Ding, X., Liu, H., Lu, Y. & Zhou, S., 2013, Temporal and Spatial Diversity of Bacterial Communities in Coastal Waters of the South China Sea, *PLoS ONE*, 8(6): e66968.
- Du, X. J, Zhao, X. F. & Wang, J. X., 2007, Molecular Cloning and Characterization of A Lipopolysaccharide and Beta-1,3-glucan Binding Protein from Fleishy Prawn (*Fenneropenaeus chinensis*), *Molecular Immunology*, 44(6) : 1085-94.
- Duc, P. M., Nhan, H. T., Hoa, T. T. T., Huyen, H. M., Tao, C. T., An, C. M., Thy, D. T. M., Hai, T. N., Yoshitaka, H. & Satoru, O., 2016, Effects of Heat-killed *Lactobacillus plantarum* strain L-137 on Growth Performance and Immune Responses of White Leg Shrimp (*Litopenaeus vannamei*) via Dietary Administration, *International Journal of Science and Research Publication*, 6 (3) : 270.
- Elayaraja, S., Annamalai, N., Mayavu, P. & Balasubramanian, T., 2014, Production, Purification and Characterization of Bacteriocin from *Lactobacillus murinus* AU06 and its Broad Antibacterial Spectrum, *Asian Pacific Journal of Tropical Biomedicine*, 4(1) : 305-311.
- Elmahdi, S., DaSilva, L. V. & Parveen, S., 2016, Antibiotic Resistance of *Vibrio Parahaemolyticus* and *Vibrio Vulnificus* in Various Countries: A Review, *Food Microbiology*, 57 : 128-134.

- Elsayed, E.A., Othman, N. Z., Malek, R., Tang, T. & El Enshasy, H. A., 2014, Improvement of Cell Mass Production of *Lactobacillus delbrueckii* sp. *bulgaricus* WICC-B-02: A Newly Isolated Probiotic Strain from Mother's milk, *Journal of Applied Pharmaceutical Science*, 4(11) : 008-014.
- Escamilla-Montes, R., Luna-González, A., Flores-Miranda, M. C., Álvarez-Ruiz, P., Fierro-Coronado, J. A., Sánchez-Ortiz, A. C. & Ávila-Leal, J., 2015, Isolation and Characterization of Potential Probiotic Bacteria Suitable for Mollusk Larvae Cultures, *Thai Journal of Veterinary Medicine*, 45(1) : 11-21.
- Fang, H. Ohlsson A. K., Ullberg, M. & V. Özenci, 2012, Evaluation of Species-specific PCR, Bruker MS, VITEK MS and the VITEK 2 System for the Identification of Clinical *Enterococcus* Isolates, *European Journal of Clinical Microbiology & Infectious Diseases*, doi 10.1007/s10096-012-1667-x.
- FAO, 2009, *The State of World Fisheries and aquaculture 2008*, FAO Fisheries and Aquaculture Department, Food and Agriculture Organization of The United Nations, Rome.
- FAO/WHO , 2002, *Guidelines for the Evaluation of Probiotics in Food Report of a Joint FAO/WHO Working Group on Drafting Guidelines for the Evaluation of Probiotics in Food*, London Ontario, Canada.
- FAO/WHO, 2006, *Probiotics in food Health and nutritional properties and guidelines for evaluation*, World Health Organization, Food and Agriculture Organization of The United Nations, Rome.
- Far, H. Z., Saad, C. R. B., Daud, H. M., Harmin, S. A. & Shakibazadeh, S., 2009, Effect of *Bacillus subtilis* on the Growth and Survival Rate of Shrimp (*Litopenaeus vannamei*), *African Journal of Biotechnology*, 8 (14):3369-3376.
- Farzanfar, A., 2006, The use of Probiotic in Shrimp Aquaculture, *FEMS Immunology & Medical Microbiology* 48:149-158.
- Fayol-Messaoudi, D., Cédric N., Berger, Marie-Hélène, & Coconnier-Polter, 2005, pH-, Lactic Acid-, and Non-Lactic Acid-Dependent Activities of Probiotic *Lactobacilli* against *Salmonella enterica* Serovar *Typhimurium*, *Applied and Environmental Microbiology*, 71 (10) : 6008–6013.
- Feng, B. W., Li, X. R., Wang, J. H., Hu, Z. Y., Meng, H., Xiang, L. Y. & Quan, Z. X., 2009, Bacterial Diversity of Water and Sediment in the Changjiang Estuary and Coastal Area of the East China Sea. *FEMS Microbiology Ecology*, 70(2) : 80-92.

- Flegel, T. W., 2012, Historic emergence, impact and current status of shrimp pathogens in Asia. *Journal of Invertebrate pathology*, 110(2):166-73.
- Flores-Miranda, M. C., Luna-González, A., Campa-Córdova, A. I., González-Ocampo, H.A., Fierro-Coronado, J.A. & Partida-Arangure B.O., 2011, Microbial Immunostimulants Reduce Mortality in White Leg Shrimp *Litopenaeus vannamei* Challenged with *Vibrio sinaloensis* Strains. *Aquaculture*, 320 : 51-55.
- Fradiani, P. A., Petrucca, A., Ascenzioni, F., Di Nucci, G., Teggi, A., Bilancini, S. & Ciprian, P., 2010, Endocarditis Caused by *Lactobacillus jensenii* in an Immunocompetent Patient, *Journal of Medical Microbiology*, 59 : 607–609.
- Fraise, A. P, Wilkinson, M. A., Bradley, C. R., Oppenheim, B., & Moiemmen, N., 2013, The Antibacterial Activity and Stability of Acetic Acid, *Journal of Hospital Infection*, 84(4) : 329-31.
- Fredrick, W.S. & Ravichandran S., 2012, Hemolymph Proteins in Marine Crustaceans, *Asian Pacific Journal of Tropical Biomedicine*, 2(6) : 496-502.
- Fung, W. Y., Woo, Y. P. & Liong, M. T., 2008, Optimization of Growth of *Lactobacillus acidophilus* FTCC 0291 and Evaluation of Growth Characteristics in Soy Whey Medium: A Response Surface Methodology Approach, *Journal of Agriculture and Food Chemistry*, 56 (17) : 7910–7918.
- Galdeano, C. M., de LeBlanc, A. de., Vinderola, G., Bonet, M. E. B., & Perdigo'n, G., 2007, Proposed Model: Mechanisms of Immunomodulation Induced by Probiotic Bacteria, *Clinical And Vaccine Immunology*, 14(5) : 485–492.
- Gao, Y., Marco, J., Van Belkum, & Stiles, M. E., 1999, The Outer Membrane Of Gram-Negative Bacteria Inhibits Antibacterial Activity Of Brochocin-C, *Applied Environmental Microbiology*, 65 (10) : 4329–4333.
- Gao, Z., Shao, J., Sun, H., Zhong, W., Zhuang, W. & Zhang, Z., 2012, Evaluation of Different Kinds of Organic Acids and Their Antibacterial Activity in Japanese Apricot fruits, *African Journal of Agriculture Research*, 7(35) : 4911-4918.
- Garcera, M. J. G., Elferink, M. G. L., Driessen, A. I. M. & Konings, W. N., 1993, In vitro Pore-forming Activity of the Lantibiotic Nisin, Role of Protonmotive Force and Lipid Composition, *European journal of biochemistry*, 216 : 7-422.

- Giri, S. S., Sen, S.S., Jun, J. W., Park, S. C & Sukumaran, V., 2016 Heat-killed whole-cell products of the probiotic *Pseudomonas aeruginosa* VSG2 strain affect *in vitro* cytokine expression in head kidney macrophages of *Labeo rohita*, *Fish & Shellfish Immunology*, 50 :310-316
- Gómez-Sala, B., Muñoz-Atienza, E., Sánchez, J., Basanta, A., Herranz, C., Hernández, P. E., & Cintas, L. M., 2015, Bacteriocin Production by Lactic Acid Bacteria Isolated from Fish, Seafood and Fish Products, *European Food Research and Technology*, 241 : 341–56.
- Gonzalez-Fandos, E. & Herrera, B., 2014, Efficacy of Acetic Acid against *Listeria monocytogenes* Attached to Poultry Skin during Refrigerated Storage, *Foods*, 3(3) : 527-540.
- Gopalakrishnan, S., Chen, F. Y., Thilagam, H., Qiao, K., Xu, W. F. & Wang, K. J., 2014, Modulation and Interaction of Immune-Associated Parameters with Antioxidant in the Immunocytes of Crab *Scylla paramamosain* Challenged with Lipopolysaccharides, *Evidence-Based Complementary and Alternative Medicine* 2011, Article ID 824962, 8 p, doi:10.1155/2011/824962.
- Gulliana, M., Thompson, F., & Rodriguez, J., 2004, Selection of Probiotic Bacteria and Study of their Immunostimulatory Effect in *Penaeus vannamei*, *Aquaculture* 233 : 1 –14.
- Gutiérrez-Méndez, N<sup>o</sup> Rodríguez-Figueroa, J. C. , González-Córdova, A. F. , Nevárez-Moorillón, G. V. , Rivera-Chavira, B. & Vallejo-Cordoba, B., 2010, Phenotypic and Genotypic Characteristics of *Lactococcus lactis* strains Isolated from Different Ecosystems. *Canadian Journal of Microbiology*, 56(5) : 432-9.
- Habimana, O., Goff, C. L., Juillard, V., Bellon-Fontaine, M., Buist, G., Kulakauskas, S., & Briandet, R., 2007, Positive Role of Cell Wall Anchored Proteinase PrtP in Adhesion of *Lactococci*, *BMC Microbiology*, 7 : 36.
- Haryanti, Muzaki, A., Sembiring, S. B. M., Fahrudin, Permana, I. G. N. & Wardana, I. K., 2014, The Effect Of Probiotic On Immunity Improvement In the Fry And Spawner Production of Pacific White Shrimp *Litopenaeus vannamei*, *Indonesian Aquaculture Journal*, 9(2) : 133-146.
- Hayek, S. A. & Ibrahim, S. A., 2013, Current Limitations and Challenges with Lactic Acid Bacteria: A Review, *Food and Nutrition Sciences*, 4 : 73-87.

- Heenatigala, P. P. M. & Fernando, M. U. L., 2016, Occurrence of Bacteria Species Responsible for Vibriosis in Shrimp Pond Culture Systems in Sri Lanka and Assessment of the Suitable Control Measures, *Sri Lanka Journal of Aquatic Science*, 21(1) : 1–17.
- Hegarty, J. W., Guinane C. M, Ross, R. P., Hill, C., & Cotter, P. D., 2016, Bacteriocin Production: a Relatively Unharnessed Probiotic Trait? *F1000 Research*. 5 : 2587.
- Helander, I.M., 2000, Lactic Acid Permeabilizes Gram-Negatif Bacteria by Disrupting the Outer Membrane, *Applied and Environmental Microbiology*, 66: 2001–2005.
- Helen I. Zgurskaya, H. I., Cesar A. López, C. A., & Gnanakaran, S., 2015, Permeability Barrier of Gram-Negative Cell Envelopes and Approaches To Bypass It, *ACS Infect Dis.*1(11): 512–522.
- Hemarajata, P. & Versalovic, J., 2013, Effects of Probiotics on Gut Microbiota: Mechanisms of Intestinal Immunomodulation and Neuromodulation, *Therapeutic advances in gastroenterology*, 6(1) : 39–51.
- Heng, L. & Lei, W., 1998, On the Ultrastructure and Classification of the Hemocytes of Penaeid Shrimp, *Penaeus vannamei* (Crustacea, Decapoda), *Chinese Journal of Oceanology and Limnology*, 16 : 333-338.
- Henning, C., Vijayakumar, P., Adhikari, R., Jagannathan, B., Gautam, D. & Muriana, P. M., 2015, Isolation and Taxonomic Identity of Bacteriocin-Producing Lactic Acid Bacteria from Retail Foods and Animal Sources, *Microorganisms* 3 : 80-93.
- Hill, J. E. Baiano, J. C. , Barnes, A. C. & Dis, J. F., 2009, Isolation of a Novel Strain of *Bacillus pumilus* from Penaeid Shrimp that is Inhibitory Against Marine Pathogens. *Journal of Fish Diseases*, 32(12) : 1007-16.
- Hinthong, W., Indrawattana, N., Pitaksajjakul, P., Pipattanaboon , C., Kongngoen , T., Tharnpoophasiam, P. & Worakhunpiset, S., 2015, Effect of Temperature on Fimbrial Gene Expression and Adherence of Enteroggregative *Escherichia coli*, *International Journal of Environmental Research and Public Health*, 12 : 8631-8643.
- Holthuis, L.B., 1980, *Shrimps and Prawns of the World, An Annotated Catalogue of Species of Interest to Fisheries*, FAO Fisheries Synopsis, 125 : 12-58.

- Hong, X. P., Xu, D., Zhuo, Y., Liu H. Q. & Lu, L. Q., 2016, Identification and pathogenicity of *Vibrio parahaemolyticus* isolates and immune responses of *Penaeus (Litopenaeus) vannamei* (Boone), *Journal of Fish Disease*, 39(9):1085-1097..
- Hou, J. C., Liu, F., Ren, D. X., Han, W.W. & Du, Y. O., 2015, Effect of Culturing Conditions on the Expression of Key Enzymes in the Proteolytic System of *Lactobacillus bulgaricus*, *Journal of Zhejiang University Science B*. 16(4) : 317–326.
- Hwang, C. F., Chang, J. H., Hwang, JY. Tsai, C. C., Lin, C. K. & Tsen, H. Y., 2012, Optimization of Medium Composition for Improving Biomass Production of *Lactobacillus plantarum* Pi06 Using the Taguchi Array Design and the Box-Behnken Method, *Biotechnology and Bioprocess Engineering*, 17 : 827-834.
- Hwang, E. N., Kang, S. M., Kim, M. J. & Ju-Woon Lee, J. W., 2015, Screening of Immune-Active Lactic Acid Bacteria, *Korean Journal of food Science*. . 35 (4): 541~550
- Hwanhlem, N., Biscola, V., El-Ghaish, S., Jaffrès, E., Dousset, X., Haertlé, T., H-Kittikun, A. & Chobert, J. M., 2013, Bacteriocin-Producing Lactic Acid Bacteria Isolated from Mangrove Forests in Southern Thailand as Potential Bio-Control Agents: Purification and Characterization of Bacteriocin Produced by *Lactococcus lactis* subsp. *lactis* KT2W2L, *Probiotics Antimicrob Proteins*, 5(4) : 264-78.
- Ibrahim, S. B., Rahman, N. A., Mohamad, R & Rahim, R. A., 2010, Effects of agitation speed, temperature, carbon and nitrogen sources on the growth of recombinant *Lactococcus lactis* NZ9000 carrying domain 1 of aero-lysin gene, *African Journal of Biotechnology*, 9(33):5392-5398
- Ibrahim, S.A., Yang, H. & Seo, C. W., 2008, Antimicrobial Activity of Lactic Acid and Copper on Growth of *Salmonella* and *Escherichia coli* O157:H7 in laboratory medium and carrot juice, *Food Chemistry*, 109 : 137–143.
- Ige, B. A., 2013, Probiotics Use in Intensive Fish Farming, *African Journal of Microbiology Research*, 7(22) : 2701-2711.
- Ishibashi, N., Yaeshima, T & Hayasawa, H., 1997, Bifidobacteria: Their Significance in Human Intestinal Health, *Malaysian Journal of Nutrition*, 3 : 149-159.
- Ivanov, I. I. & Honda, K., 2012, Intestinal Commensal Microbes as Immune Modulators, *Cell Host Microbe*, 12(4) : 496–508.

- Jakhar, V., Sihag, R. C. & Gahlawat, S. K., 2016, Effect of Probiotics on Immunological Status of Giant Freshwater Prawn (*Macrobrachium rosenbergii* de Man), *Indian Journal of Animal Research*, 50 (6) : 930-935.
- Janeway, Jr. C. A. & Medzhitov, R., 2002, Innate Immune Recognition, *Annu. Rev. Immunol.* 20 :197–216.
- Jankowska, A., Laubitz, D., Antushevich, H., Zabielski, R. & Grzesiuk, E., 2008, Competition of *Lactobacillus paracasei* with *Salmonella enterica* for Adhesion to Caco-2 Cells, *Journal of Biomedicine and Biotechnology*, Article ID 357964, 6 p, <http://dx.doi.org/10.1155/2008/357964>.
- Ji, P.F., Yao, C. L. & Wang, Z.Y., 2009, Immune Response and Gene Expression in Shrimp (*Litopenaeus vannamei*) Hemocytes and Hepatopancreas Against Some Pathogen-associated Molecular Patterns, *Fish & Shellfish Immunology*, 27 : 563–570.
- Jiravanichpaisal, P., Lee, B. L. & Söderhäll, K., 2006, Cell-mediated Immunity in Arthropods: Hematopoiesis, Coagulation, Melanization and Opsonization. *Immunobiology*, 211(4) : 213-36.
- Jorjão, A. L., de Oliveira, F. E., Leão, M. V. P., Carvalho, C. A. T., Jorge, A. O. C. & de Oliveira, L. D., 2015, Live and Heat-Killed *Lactobacillus rhamnosus* ATCC 7469 May Induce Modulatory Cytokines Profiles on Macrophages RAW 264.7 *The Scientific World Journal*, ID 716749, 6 p., doi /10.1155/2015/716749.
- Júnior, W. L. G. de A., Ferrari, Í. da S., de Souza, J. V., Barbosa, A. L., da Costa, M. M., Menezes, D. R., & Dias, F. S., 2015, Principal Criteria for Selection of Lactic Acid Bacteria for Potential Use as Probiotics in Foods, *African Journal of Microbiology Research*, 9(10) : 671-686.
- Karthik, R., Pushpam, A. C. & Vanitha, M. C., 2015, Development Of Marine Derived Probiotic Bacterial Consortium For The Sustainable Management Of *Litopenaeus Vannamei* Culture , *International Journal of Advanced Research in Engineering and Technology*, 6 (10) : 62-75,
- Karthik, R., Pushpam, A. C. & Vanitha, M. C., 2015, Development of Marine Derived Probiotic Bacterial Consortium for The Sustainable Management of *Litopenaeus vannamei* Culture, *International Journal of Advanced Research in Engineering and Technology* (IJARET), 6 (10): 62-75,
- Karthikeyan, V. & Santosh, S. W., 2009, Isolation and Partial Characterization of Bacteriocin Produced from *Lactobacillus plantarum*, *African Journal of Microbiology Research*, 3 (5) : 233-239.

- Kato, C. D., Kahuma, C. E., Namulawa, V. T. & Kasozi, N., 2016, Antibacterial Activity of *Lactobacillus spp* and *Lactococcus spp* Isolated from Various Parts of Pebbly Fish, *Alestes baremoze*, *British Microbiology Research Journal*, 17(2) : 1-7.
- Kelly A. T. & Deutsch, A. S. 2007, The Physiological Relevance of the Intestinal Microbiota - Contributions to Human Health, *Journal of the American College of Nutrition*, 26 : 679–683.
- Khan, S. H. & Ansari, F. A., 2007, Probiotics--the Friendly Bacteria with Market Potential in Global Market, *Pakistan Journal of Pharmaceutical Science*, 20(1) : 76-82.
- Khodaii, Z., Natanzi, M. M., Naseri, M. H., Goudarzvand, M., Dodson, H. & Snelling, A. M., 2013, Phytase Activity of Lactic Acid Bacteria Isolated from Dairy and Pharmaceutical Probiotic Product, *International Journal of Enteric Pathogens*, 01(01) : 12-16.
- Kholif, A. M., Mahran, G. A., El-Nawawy, M. A., Ismail, A. A. & Zaky, W. M., 2011, Evaluation of Proteolytic Activity of Some Dairy *Lactobacilli*, *World Journal of Dairy & Food Science*, 6 : 21-26.
- Kim, E. Y., Kim, Y. H., Song, J. C., Lee, K. W., Kim, K. S., Lee, S.P., Lee, I. S. & Park, S. C., 2007, Selection of *Lactonacillus* sp. PSC 101 That Produces Active Dietary Enzymes Such as Amylase, Lipase, Phytase and Protease in Pigs, *Journal of General and Applied Microbiology*, 53 : 111-117.
- Kim, M. S., Min, E. Y., Kim, J. H., Koo, J. K. & Kang, J. C., 2015, Growth Performance and Immunological and Antioxidant Status of Chinese shrimp, *Fennerpenaeus chinensis* Reared in Bio-floc Culture System Using Probiotics, *Fish & Shellfish Immunology*, 47 (1) : 141-146.
- Kim, M., Oh, H. S., Park, S. C. & Chun, J., 2014, Towards a Taxonomic Coherence between Average Nucleotide Identity and 16S rRNA Gene Sequence Similarity for Species Demarcation of Prokaryotes, *International Journal of Systematic and Evolutionary Microbiology*, 64 : 346–351.
- Kongnum, K. & Hongpattarakere, T. , 2012, Effect of *Lactobacillus plantarum* Isolated from Digestive Tract of Wild Shrimp on Growth and Survival of White Shrimp (*Litopenaeus vannamei*) Challenged with *Vibrio harveyi*, *Fish & Shellfish Immunology*, 32(1) : 170-177.
- Kosin, B. & Rakshit, S. K., 2006, Microbial and Processing Criteria for Production of Probiotics: A Review , *Food Technology and Biotechnology*, 44 (3) : 371–379.

- Koutsos, E. A. & Arias, V. J., 2006, Intestinal Ecology: Interactions Among the Gastrointestinal Tract, Nutrition, and the Microflora, *Journal of Applied Poultry Research*, 15 : 161–173.
- Kozhakhmetov , S. S., Oralbayeva, S. S., Kushugulova, A. R., Almagambetov, K. Kh., Abzhalelov, A. B. & Ramankulov, E. M., 2009, Creation of the probiotic consortium on the base of strains of *Bifidobacterium* spp. *Malaysian Journal of Microbiology*, 5(2):67-72.
- Kravtsov, E. G., Yermolayev, A. V., Anokhina, I. V., Yashina, N. V., Chesnokova, V. L. & Dalin, M. V., 2008, Adhesion Characteristics of *Lactobacillus* is a Criterion of the Probiotic Choice, *Bulletin of Experimental Biology and Medicine*, 145 : 232-234.
- Kristoffersen, S. M., Ravnum, S., Tourasse, N. J., Økstad, O. A., Kolstø, A. & Davies, W., 2007, Low Concentrations of Bile Salts Induce Stress Responses and Reduce Motility in *Bacillus cereus* ATCC 14570, *American Society for Microbiology*, 0021-9193/07/\$08.000 doi:10.1128/JB.00239-07.
- Lafuente-Rincón, D. F., Chávez, T.E.V. & De la Fuente-Salcido, N. M., 2016, Bacteriocins of Gram-positive bacteria: Features and biotherapeutic approach, *African Journal of Microbiology Research*, 10(45), 1873-1879.
- Laohawiwattanaku, S. & Rodprapakorn, M., 2010, *Effect of Mixed Culture Lactobacillus to Black Tiger Shrimp (Penaeus monodon) Cultivation*, Proceedings of the 48th Kasetsart University Annual Conference, Kasetsart, 3-5 March, 2010. Subject: Agro-Industry 2010 pp. Unpaginated.
- Lara-Flores, M., 2011, The Use of Probiotic in Aquaculture: an Overview, *International Research Journal of Microbiology (IRJM)*, 12 : 471-478.
- Laverock, B., Smith, C. J., Tait, K., Osborn, A. M., Widdicombe, S. & Gilbert, J. A., 2010, Bioturbating Shrimp Alter the Structure and Diversity of Bacterial Communities in Coastal Marine Sediments. *International Society for Microbial Ecology Journal*, 4(12) : 1531-44.
- Lazado, C. C., Jermaine, L. & Caipang, C. M. A., 2015, *Mechanisms of Probiotic Actions in Shrimp: Implications to Tropical Aquaculture*, Biotechnological Advances in Shrimp Health Management in the Philippines, (Ed.Christopher Marlowe A. Caipang, Mary Beth I. Bacano-Maningas and Fernand F. Fagutao): 89-114 ISBN: 978-81-308-0558-0.

- Lazado, C.C. & Caipang, C.M.A., 2014, Bacterial Viability Differentially Influences the Immunomodulatory Capabilities of Potential Host-derived Probiotics in the Intestinal Epithelial Cells of Atlantic cod *Gadus morhua*. *Journal of Applied Microbiology*, doi: 10.1111/jam.12414.
- Le, T. X., Y.Munekage , & S. I. Kato, 2005, Antibiotic Resistance in Bacteria from Shrimp Farming in Mangrove Areas , *Science of The Total Environment*, 349 : 95-105.
- Lebeer, S., Claes, I., Tytgat, H. L. P., Verhoeven, T. L. A., Marien, E., von Ossowski, I., Reunanen, J., Palva, A., de Vos, W. M., De Keersmaecker, S. J. C. & Vanderleyden, J., 2012, Functional Analysis of *Lactobacillus rhamnosus* GG Pili in Relation to Adhesion and Immunomodulatory Interactions with Intestinal Epithelial Cells, *Applied and Environmental Microbiology*, 78 (1): 185–193.
- Lee, K. B., Kang, S. K. & Choi, Y. J., 2013, A low-cost *Lactobacillus salivarius* L29 Growth Medium Containing Molasses and Corn Steep Liquor Allows the Attainment of High Levels of Cell Mass and Lactic Acid Production, *African Journal of Biotechnology*, 12(16) : 2013-2018.
- Lee, N. K., Park, Y. L., Choe, G. J., Chang, H. I. & Paik, H.D., 2010, Medium Optimization for the Production of Probiotic *Lactobacillus acidophilus* A12 Using Response Surface Methodology, *Korean Journal for Food Science of Animal Resources*, 30(3) : 359~364.
- Lee, S., Lee, J., Jin, Y., Jeong, J., Chang, Y. H., Lee, Y., Jeong, Y. & Kim, M., 2017, Probiotic characteristics of *Bacillus* strains isolated from Korean traditional soy sauce, *LWT - Food Science and Technology*, 79: 518-524.
- Lejeune, R., Callewaert, R., Crabba, K. & Vuyst, L. D., 1998, Modelling the Growth and Bacteriocin Production by *Lactobacillus amylovorus* DCE 471 in Batch Cultivation, *Journal of Applied Microbiology*, 84 : 159-168.
- Leroy, F. & de Vuyst, L., 1999, Temperature and pH Conditions that Prevail During Fermentation of Sausages are Optimal for Production of the Antilisterial Bacteriocin Sakacin K., *Applied Environment Microbiology*, 65 : 974-81.
- Leyva-Madriral, K. Y., Luna-González, A. , Escobedo-Bonilla, C. M., Fierro-Coronado, J. A. & Maldonado-Mendoza, I. E., 2011, Screening for Potential Probiotic Bacteria to Reduce Prevalence of WSSV and IHHNV in Whiteleg Shrimp (*Litopenaeus vannamei*) under Experimental Conditions, *Aquaculture* 322-323 : 16–22.

- Li, C., Bai, J., Cai, Z., & Ouyang, F., 2002, Optimization of a Cultural Medium for Bacteriocin Production by *Lactococcus lactis* Using Response Surface Methodology, *Journal of Biotechnology*, 93 : 27–34.
- Li, K., Zheng, T. L. , Tian, Y. & Yuan, J. J., 2007, Bacterial community structure in intestine of the white shrimp, *Litopenaeus vannamei*, *Wei Sheng Wu Xue Bao*. 47(4):649-53.
- Li, K., Zheng, T. L., Tian, Y., Xi, F., Yuan, J. J., Zhang, G. Z. & Hong, H. S., 2007, Beneficial Effects of *Bacillus licheniformis* on the Intestinal Microflora and Immunity of the White Shrimp, *Litopenaeus vannamei*, *Biotechnology Letter*, 29 : 525–530.
- Li, Q., Liu, X. L., Dong, M. S., Zhou, J. Z. & Wang, Y., 2015, Aggregation and Adhesion Abilities of Lactic Acid Bacteria Strains Isolated from traditional Fermented Food, *International Journal of Agricultural Policy and Research*, 3 (2) : 84-92.
- Liew, S. L., Ariff, A. B., Raha, A. R. & Ho, Y. W.. 2005, Optimization of Medium Composition for the Production of a Probiotic Microorganism, *Lactobacillus rhamnosus*, Using Response Surface Methodology, *International Journal of Food Microbiology*, 102 : 137-142.
- Lim, C.H., Rahim, R.A., Ho, Y.W. & Arbakariya, B.A., 2007, Optimization of Growth Medium for Efficient Cultivation of *Lactobacillus salivarius* I 24 using Response Surface Method, *Malaysian Journal of Microbiology*, 3(2) : 41-47.
- Lim, S. M. and Im, D. S., 2009, Screening and Characterization of Probiotic Lactic Acid Bacteria Isolated from Korean Fermented Foods , *Journal of Microbiology and Biotechnology*, 19(2) : 178–186.
- Lim, S. M, 2010, Cultural conditions and nutritional components affecting the growth and bacteriocin production of *Lactobacillus plantarum* KC21, *Food Science and Biotechnology*, 19(3):793–802
- Liu, F, Li, F. , Dong, B. , Wang, X. & Xiang, J., 2009, Molecular Cloning and Characterisation of a Pattern Recognition Protein, Lipopolysaccharide and Beta-1,3-glucan Binding Protein (LGBP) from Chinese Shrimp *Fenneropenaeus chinensis*, *Molecular Biology Reports*, 36(3) : 471-7.
- Liu, H., Li, Z., Tan, B., Lao, Y, Duan, Z., Sun, W. & Dong, X., 2014, Isolation of a Putative Probiotic Strain S12 and its Effect on Growth Performance, Non-specific Immunity and Disease-resistance of White Shrimp, *Litopenaeus vannamei*, *Fish & Shellfish Immunology*, 41(2) : 300-307.

- Livak, K. J. & Schmittgen, T. D., 2001, Analysis of Relative Gene Expression Data Using Real-Time Quantitative PCR and the  $2^{-\Delta\Delta C_T}$  Method, *Methods*, 25, 402–408.
- Ljungh, A. & Wadström, T., 2006, Lactic Acid Bacteria as Probiotics, *Current Issues in Intestinal Microbiology*, 7(2) : 73-89.
- Los, D. A. & Murata, N., 2004, Membrane Fluidity and its Roles in the Perception of Environmental Signals, *Biochimica et Biophysica Acta* 1666 : 142–157.
- Madhukiran, N., Soundarapandian, P., Samuel, N. J. & Dinakaran, G. K., 2009, Recent Technology for the Seed Quality Management of Commercially Important Shrimp *Penaeus monodon* (Fabricius), *Current Research Journal of Biological Sciences*, 1 : 144-149.
- Maeda, M. I., Shibata, A., Biswas, G., Korenaga, H., Kono, T., Itami, T. & Sakai, M., 2014, Isolation of Lactic Acid Bacteria from Kuruma Shrimp (*Marsupenaeus japonicus*) Intestine and Assessment of Immunomodulatory Role of a Selected Strain as Probiotic, *Marine Biotechnology (NY)*, 16(2) : 181-92.
- Maftuch, Prasetio, E., Sudianto, A., Rozik, M., Nurdiyani, R., Sanusi, E. & Murachman, 2013, Improvement of Innate Immune Responses and Defense Activity in Tiger Shrimp (*Penaeus monodon* Fab.) by Intramuscular Administration of the Outer Membrane Protein *Vibrio alginolyticus*. *SpringerPlus*, 2 : 432.
- Malek, R.A., Hamdan, S., El Enshasy, H.A., Othman, N. Z., Zainol, N. A., Sarmidi, M. R. & Ramlan, A. A., 2010, Production of *Lactobacillus salivarius*, a New Probiotic Strain Isolated from Human Breast Milk, in Semi-industrial Scale and Studies on its Functional Characterization dalam Current Research, Technology and Education Topics in Applied Microbiology and Microbial Biotechnology, A. Mendez-Vilas (Ed), *Formatex*.
- Maria do Carmo de Freire Bastos, M. C. F., Coelho, M. L. V. & Santos, O. C. D., 2015, Resistance to bacteriocins produced by Gram-positive bacteria, *Microbiology*, 161: 683–700
- Martin, G. G. & Graves, B. L., 1985, Fine Structure and Classification of Shrimp Hemocytes. *Journal of Morphology*, 185 : 339–348.
- Martínez, B., Rodríguez, A. & Suárez, E., 2016, *Antimicrobial Peptides Produced by Bacteria: The Bacteriocins*, dalam *New Weapons to Control Bacterial Growth*, Villa, T.G. and Vinas, M. (eds.), Springer International Publishing, Switzerland.

- Meijerink, M., van Hemert, S., Taverne, N., Wels, M. & de Vos, P., 2010, Identification of Genetic Loci in *Lactobacillus plantarum* That Modulate the Immune Response of Dendritic Cells Using Comparative Genome Hybridization. *PLOS ONE* 5(5) : e10632.
- Mekata, T., Kono, T., Yoshida, T., Sakai, M. & Itami, T., 2008, Identification of cDNA Encoding Toll Receptor, MjToll Gene from Kuruma Shrimp, *Marsupenaeus japonicus*, *Fish & Shellfish Immunology*, 24 : 122-133.
- Meng, Q., Cai, Q., Shi, B., Fu, R., Li, J., Chen, X., Qi, K. & Zhang, M., 2012, Optimization of Medium Composition for Production of Lacticin LLC518 by *Lactococcus lactis* subsp. *lactis* LLC518 Using Response Surface Methodology, *Journal of Food, Agriculture & Environment*, 10 : 137-142.
- Mente, E., Coutteau, P., Houlihan, D., Davidson, I. & Sorgeloos, P., 2002, Protein turnover, amino acid profile and amino acid flux in juvenile shrimp *Litopenaeus vannamei*: effects of dietary protein source, *The Journal of Experimental Biology*, 205: 3107–3122.
- Merghni, A., Nejma, M. B., Hentati, H., Mahjoub, A. & Mastouri, M., 2014, Adhesive Properties and Extracellular Enzymatic Activity of *Staphylococcus aureus* Strains Isolated from Oral Cavity, *Microbial Pathogenesis* , 73 : 7–12.
- Merrifield, D. L., Dimitroglou A., Foey A., Davies, S. J., Baker, T. M., Bogwald, J., Castex, M. & Ring, E., 2010, The Current Status and Future Focus of Probiotic and Prebiotic Applications for Salmonids. *Aquaculture* 302 : 1 – 18.
- Merritt, M. E. & Donaldson, J. R., 2009, Effect of bile salts on the DNA and membrane integrity of enteric bacteria, *Journal of Medical Microbiology* , 58: 1533–1541.
- Messens, W., Verluyten, J., Leroy, F. & De Vuyst, L., 2003, Modelling Growth and Bacteriocin Production by *Lactobacillus curvatus* LTH 1174 in Response to Temperature and pH Values Used for European Sausage Fermentation Processes, *International Journal of Food Microbiology*, 81 : 41-52.
- Michael, E. T., de Amos, S. O. & Hussaini, L. T., 2014, A Review on Probiotics Application in Aquaculture, *Fisheries and Aquaculture Journal*, 5 : 4.
- Migaw, S., Ghairi, T., Belguesmia, Y., Choiset, Y., Berjeaud, J. Y. & Chobert, J. M., 2014, Diversity of Bacteriocinogenic Lactic Acid Bacteria Isolated from Mediterranean Fish Viscera, *World Journal Microbiology. Biotechnol.* 30 : 1207-1217.

- Mine, S., & Boopathy, R., 2011, Effect of organic acids on shrimp pathogen, *Vibrio harveyi*, *Current Microbiology*, 63(1):1-7.
- Mitra, S., Chakrabarty, P. K. & Biswas, S. R., 2007, Production of Nisin Z by *Lactococcus lactis* Isolated from Dahi, *Applied biochemistry and biotechnology*, 143:41.
- Miyoshi, Y., Okada, S., Uchimura, T. & Satoh, E., 2006, A Mucus Adhesion Promoting Protein, MapA. Mediates the Adhesion of *Lactobacillus reuteri* to Caco-2 Human Intestinal Epithelial Cells, *Bioscience, Biotechnology, and Biochemistry*, 79 : 1622-1628.
- Mohseni, J., Fazeli, M. & Lavasani, A. S., 2016, Effect of Various Parameters of Carbon and Nitrogen Sources and Environmental Conditions on the Growth of *Lactobacillus Casei* in the Production of Lactic Acid, *Bulletin of Environment, Pharmacology and Life Sciences*, 5(9) : 49-54.
- Moonchai, S., Madhoo, W., Jariyachavalit, K. & Chauvatcharin, S., 2005, Application of a Mathematical Model and Differential Evolution Algorithm Approach to Optimization of Bacteriocin Production by *Lactococcus lactis* C7, *Bioprocess and Biosystems Engineering*, 28(1) : 15-26
- Moosavi-Nasab, M., Abedi, E., Moosavi-Nasab, S. & Eskandari, M. H., 2014, Inhibitory Effect of Isolated Lactic Acid Bacteria, from *Scomberomorus commerson* Intestines and their Bacteriocin on *Listeria innocua*, *Iran Agricultural Research*, 33 (1).
- Moraes, P. M., Perin, L. M., Júnior, A. S. & Nero, L. A., 2013, Comparison of Phenotypic and Molecular Tests to Identify Lactic Acid Bacteria, *Brazilian Journal of Microbiology*, 44 (1) : 109-112.
- Moriarty, D. J. W., 1999, Disease Kontrol in Shrimp Aquaculture with Probiotic Bacteria, dalam Proceeding of the 8th International Symposium on Microbial Ecology, *Atlantic Canada Society for Microbial Ecology, Halifax, Canada*.
- Moss, S. M., LeaMaster, B. R. & Sweeney, J. N., 2007, Relatif Abundance and Species Composition of Gram-Negatif, Aerobic Bacteria Associated with the Gut of Juvenile White Shrimp *Litopenaeus vannamei* Reared in Oligotrophic Well Water and Eutrophic Pond Water, *Journal of the World Aquaculture Society*, 31: 255 – 263.
- Muliani, Nurbaya, & Atmomarsono, M., 2010, Penggunaan Probiotik pada Pemeliharaan Udang Windu (*Penaeus monodon*) dengan Dosis Pakan yang Berbeda, *Prosiding Forum Inovasi Teknologi Akuakultur*.

- Mulyasari, Widanarni, Suprayudi, M. A., Zairin, M. Jr. & Sunarno, M. T. J., 2016, Screening of probiotics from the digestive tract of gouramy (*Osphronemus goramy*) and their potency to enhance the growth of tilapia (*Oreochromis niloticus*), *AAFL Bioflux*, 9 (5):1121-1132
- Munanga, B. De J. C., Loiseau, G., Grabulos, J., & Mestres, C., 2016, Modeling Lactic Fermentation of Gowé Using *Lactobacillus* Starter Culture, *Microorganisms*, 4(44).
- Musikasang, H., Sohsomboon, N., Tani, A. & Maneerat, S., 2012, Bacteriocin-Producing Lactic Acid Bacteria as a Probiotic Potential from Thai Indigenous Chickens, *Czech Journal of Animal Science*, 57 (3) : 137–149.
- Mustafa, S. M., Chua, L. S., El- Enshasy, H. A. & Othman, N. Z., 2016, Growth And Functional Properties Of *Lactobacillus Casei* Probioticated Pomegranate Juice, *6th International Conference On Biotechnology For The Wellness Industry Malacca , 16-17 August 2016*.
- NavinChandran, M., Iyapparaj, P., Moovendhan, S., Ramasubburayan, R., Prakash, S., Immanuel, G. & Palavesam, A., 2014, Influence of Probiotic Bacterium *Bacillus cereus* Isolated from the Gut of Wild Shrimp *Penaeus monodon* in Turn as a Potent Growth Promoter and Immune Enhancer in *P. monodon*, *Fish & Shellfish Immunology*, 36(1) : 38-45.
- Newaj-Fyzul, A., Al-Harbi, A. H. & Austin, B., 2014, Review: Developments in the Use of Probiotics for Disease Control in Aquaculture, *Aquaculture* 431 : 1–11.
- Ng, W., Koh, C., Teoh, C. & Romano, N., 2015, Farm-Raised Tiger Shrimp, *Penaeus Monodon*, Fed Commercial Feeds With Added Organic Acids Showed Enhanced Nutrient Utilization, Immune Response And Resistance To *Vibrio Harveyi* Challenge, *Aquaculture*, 449 : 69-77.
- Nguyen, T. T., Nguyen, H. M., Geiger, B., Mathiesen, G., Eijsink, V. G. H., Peterbauer, C. K., Haltrich, D., & Nguye, T. H., 2015, Heterologous Expression of a Recombinant Lactobacillal  $\beta$ -galactosidase in *Lactobacillus plantarum*: Effect of Different Parameters on the Sakacin P-based Expression System, *Microbial Cell Factories*, 14 : 30.
- Nikoskelainen, S., Salminen, S., Bylund, G., & Ouwehand, A.C., 2001, Characterization of the Properties of Human and Dairy Derived Probiotics for Prevention of Infectious Diseases in Fish. *Applied and Environmental Microbiology*, 67 : 2430-2435.
- Ninawe, A.S. & Selvin, J. 2009, Probiotics in Shrimp Aquaculture: Avenues and Challenges, *Critical Reviews in Microbiology*, 35(1) : 43-66.

- Noordiana, N., Fatimah, A. B. & Mun, A. S., 2013, Antibacterial Agents Produced by Lactic Acid Bacteria Isolated from Threadfin Salmon and Grass Shrimp, *International Food Research Journal*, 20(1) : 117-124.
- Noori, F., Ebrahimi, M. T. & Jafari, P., 2016, Growth Optimization of *Lactobacillus plantarum* T5jq301796.1, an Iranian Indigenous Probiotic in Lab Scale Fermenter, *Applied Food Biotechnology*, 3 (3) : 188-193.
- Ossowski, I., Reunanen, J., Satolari, R., Vesterlund, S., Kankainen, M., Huhtinen, H., Tynkkynen, S., Salminen, S., De Vos, W. M. & Palva, A., 2010, Mucocal Adhesion Properties of the Probiotic *Lactobacillus rhamnosus* GG SpaCBA and SpaFED Pilin Subunits, *Applied and Environmental Microbiology*, 76 : 2049-2057.
- Parada, J. L., Caron, C. R., Medeiros, A. B. P., & Soccol, C. R., 2017, Bacteriocins from Lactic Acid Bacteria: Purification, Properties and use as Biopreservatives, *Brazilian Archives of Biology and Technology*, 50 (3) : 521-542.
- Parada, J. S., Caron, C. R., Bianchi, A., Medeiros, P. & Soccol, C. R., 2007, Bacteriocins from Lactic Acid Bacteria: Purification, Properties and use as Biopreservatives, *Brazilian archives of Biology and Technology an International Journal*, 50 : 521-542.
- Parente, E. & Ricciardi A, 1994, Influence of pH on the Production of Enterocin 1146 During Batch Fermentation, *Letters in Applied Microbiology*, 19 : 12-5.
- Park, Y. L., Lee, N. K., Park, K. K., Park, Y., Kim, J. M., Nam, H. M., Jung, S. J. & Paik, H. D., 2010, Medium Optimization for Pediocin SA131 Production by *Pediococcus pentosaceus* SA131 Against Bovine Mastitis Using Response Surface Methodology , *Korean Journal for Food Science of Animal Resources*, 30 : 66~72.
- Partida-Arangure, B. O., Luna-González, A., Fierro-Coronado, J. A., Flores-Miranda , M. C. & González-Ocamp, H. A., 2013, Effect of Inulin and Probiotic Bacteria on Growth, Survival, Immune Response , and Prevalence of White Spot Syndrome Virus (WSSV) in *Litopenaeus vannamei* Cultured Under Laboratory Conditions, *African Journal of Biotechnology*, 12(21) : 3366-3375.
- Patel, A., Prajapati, J. B. & Nair, B. M., 2012, Methods for Isolation, Characterization and Identification of Probiotic Bacteria to be used in Functional FOODS, *International Journal of Fermented Foods*, 1 (1) : 1-13.

- Perdigón, G., Fuller, R., & Raya, R., 2001, Lactic Acid Bacteria and their Effect on the Immun System, *Current Issues in Intestinal Microbiology*, 2 : 27-42.
- Perez, R. H., Zendo, T., & Sonomoto, K., 2014, Novel bacteriocins from lactic acid bacteria (LAB): various structures and applications, *Microbial Cell Factories*, 13(1):S3
- Perez, R. H., Zendo, T., & Sonomoto, K., 2014, Novel Bacteriocins from Lactic Acid Bacteria (LAB): Various Structures and Applications, *Microbial Cell Factories*, 13(1) : S3.
- Petelska, A. D., & Figaszewski, Z. A., 2002, Effect of pH on the Interfacial Tension of Bilayer Lipid Membrane Formed from Phosphatidylcholine or Phosphatidylserine, *Biochimica et Biophysica Acta (BBA) - Biomembranes*, 1561 (2) : 135–146.
- Pham, D., Ansquer, D., Chevalier, A., Dauga, C., Peyramale, A., Wabete, N. & Labreuche, Y., 2014, Selection and Characterization of Potential Probiotic Bacteria for *Litopenaeus Stylirostris* Shrimp Hatcheries in New Caledonia *Aquaculture*, 432 : 475-482.
- Pischedda, L, Milton, C., Gilbert, F. & Cuny, P., 2011, Characterization of Specificity of Bacterial Community Structure within the Burrow Environment of the Marine Polychaete *Hediste (Nereis) diversicolor*. *Research Microbiology*, 162(10) : 1033-42.
- Polak- Berecka, M., Wasko, A., Kordowska-Wiater, M., Podlesny, M., Targonski, Z., & Kubik-Komar, A., 2010, Optimization of Medium Composition for enhancing growth of *Lactobacillus rhamnosus* PEN using response surface methodology, *Polish Journal of Microbiology*, 59 : 113-118.
- Polak-Berecka, M., Was'ko, A., Paduch, R., Skrzypek, T. & Sroka-Bartnicka, A., 2014, The effect of cell surface components on adhesion ability of *Lactobacillus rhamnosus*, *Antonie van Leeuwenhoek*, 106:751–762.
- Preetha, R., Jayaprakash, N.S., Philip, R. & Singh, I. S. B., 2007, Optimization of Medium for the Production of A Novel Aquaculture Probiotic, *Micrococcus* MCCB 104 Using Central Composite Design, *Biotechnology Bioprocess and Engineering*, 12(5) : 548 –555.
- Pretzer, Snel, G. J., Molenaar, D., Wiersma, A., Bron, P. A., Lambert, J., de Vos, W. M., Van der Meer, R., Smits, M. A. & Kleerebezem, M., 2005, Biodiversity-Based Identification and Functional Characterization of the Mannosa-Specific Adhesion of *Lactobacillus plantarum*, *Journal of Bacteriology*, 187 : 6128-6136.

- Prudêncio, C. V., dos Santos, M. T. & Vanetti, M. C. D., 2015, Strategies for the Use of Bacteriocins in Gram-Negative Bacteria: Relevance in Food Microbiology, *Journal of Food Science and Technology*, 52(9) : 5408–5417.
- Radziwill-Bienkowska, J.M., Le, D. T. L., Szczesny, P., Duviau, M., Aleksandrak-Piekarczyk, T., Loubière, P., Mercier-Bonin, M., Bardowski, J. K., & Kowalczyk, M., 2016, Adhesion of the genome-sequenced *Lactococcus lactis subsp.cremoris* IBB477 strain is mediated by specific molecular determinants, *Applied Microbiology and Biotechnology*, 100:9605–9617.
- Rattanachaikunsopon, P., & Phumkhachorn, P., 2010, Lactic Acid Bacteria : their Antimicrobial Compounds and their Uses in Food Production, *Annals of Biological Research*, 1 : 218-228.
- Ravi, A. V. , Musthafa, K. S. , Jegathammbal, G. , Kathiresan, K. , S. & Pandian, K. , 2007, Screening and Evaluation of Probiotics as a Biocontrol Agent Against Pathogenic Vibrios in Marine Aquaculture. *Letter Applied Microbiology*, 45(2) : 219-23.
- Ricke, S. C., 2003, Perspectives on the Use of Organic Acids and Short Chain Fatty Acids as Antimicrobials, *Poultry Science*, 82 : 632–639.
- Ridlon, J. M., Kang, D. J., Hylemon, P. B., & Bajaj, J. S., 2014, Bile Acids and the Gut Microbiome, *Current Opinion Gastroenterology*. 30(3): 332–338.
- Ringø, E., & Gatesoupe, F. J., 1998, Lactic Acid Bacteria in Fish: a Review, *Aquaculture* 160 : 177–203.
- Robredo, B., & Torres, C., 2000, Bacteriocin Production by *Lactobacillus salivarius* of Animal Origin, *Journal of Clinical Microbiology* , 38 : 3908–3909.
- Roller S., 2003, *Natural Antimicrobials for Minimal Processing of Foods*, Cambridge, Woodhead Publishing Limited.
- Romano, N., Koh, C. & Ng, W. K., 2015, Dietary Microencapsulated Organic Acids Blend Enhances Growth, Phosphorus Utilization, Immune Response, Hepatopancreatic Integrity and Resistance Against *Vibrio harveyi* in White Shrimp, *Litopenaeus vannamei*, *Aquaculture*, 435 : 228–236.
- Rosa, R. D. & Barracco, M. A., 2010, Antimicrobial Peptides in Crustaceans, *Invertebrate Survival Journal*, 7 : 262-284.

- Roux, M.M., Pain, A., Klimpel, K.R. & Dhar, A. K., 2002, The Lipopolysaccharide and Beta-1,3-glucan Binding Protein Gene is Upregulated in White Spot Virus-Infected Shrimp (*Penaeus stylirostris*), *Journal of Virology*, 76(14) : 7140-9.
- Rungrassamee, W., Klanchui, A., Chaiyapechara, S., Maibunkaew, S., Tangphatsornruang, S., Jiravanichpaisal, P. & Karoonuthaisiri, N., 2013, Bacterial Population in Intestines of the Black Tiger Shrimp (*Penaeus monodon*) under Different Growth Stages. *PLoS ONE*, 8(4), e60802. doi: /10.1371/journal.pone.0060802.
- Rungrassamee, W., Klanchui, A., Maibunkaew, S., Chaiyapechara, S., Jiravanichpaisal, P. & Karoonuthaisiri, N., 2014, Characterization of Intestinal Bacteria in Wild and Domesticated Adult Black Tiger Shrimp (*Penaeus monodon*). *PLoS One*. 11;9(3):e91853. doi: 10.1371/journal.pone.0091853.
- Rungrassamee, W., Maibunkaew, S., Karoonuthaisiri, N. & Jiravanichpaisal, P., 2013, Application of Bacterial Lipopolysaccharide to Improve Survival of the Black Tiger Shrimp after *Vibrio harveyi* Exposure, *Dev Comp Immunol*. 41(2) : 257-262.
- Rungrassamee, W., Klanchui, A., Maibunkaew, S. & Karoonuthaisiri, N., 2016, Bacterial Dynamics in Intestines of the Black Tiger Shrimp and the Pacific White Shrimp during *Vibrio harveyi* Exposure, *Journal of Invertebrates Pathology*, 133 : 12-19.
- Sadeghi, A. 2016, In vitro Assessment of Some Probiotic Properties of Lactobacillus Fermentum Isolated from Pickled Garlic, *Journal of Food Quality and Hazards Control* 3:67-72.
- Saha, S., Hassan, M. A., & Sharma, A.P., 2015, Effect Of Dietary Probiotics Supplementation On Growth Performance Of Rohu, Labeo Rohita Fingerlings, *International Journal Of Pharma And Bio Science*, 6(1):1260 – 1268.
- Sahnouni, F., Boutiba-Maatallah, A., Bouhadi, D., & Boutiba, 2014, Characterization of Bacteriocin Produced by *Lactococcus lactis* ssp. Lactis Strains Isolated from Marine Fish Caught in the Algerian West Coast, *Turkish Journal of Agriculture and Natural Sciences*, 2 : 1838-1843.
- Sahu, M. K., Swarnakumar, N. S., Sivakumar, K., Thangaradjou, T. & Kannan, L., 2008, Probiotics in Aquaculture: Importance and Future Perspectives, *Indian Journal of Microbiology*, 48 : 299–308.

- Saini, V.P., Ojha, M.L., Gupta M.C., Nair, P., Sharma, A. & Luhar, V., 2014, Effect of Dietary Probiotic on Growth Performance and Disease Resistance in *Labeo rohita* (Ham.) Fingerlings, *International Journal of Fisheries and Aquatic Studies* : 1(6): 07-11.
- Salama, N. K. G. & Rabe, B., 2013, Developing Models for investigating the Environmental Transmission of Disease-causing Agents within Open-cage Salmon Aquaculture, *Aquaculture Environment Interaction*, 4 : 91-115.
- Salminen, S., Beno, Y. & De Vos, W., 2006, Intestinal Colonization, Microbiota and Future Probiotics?, *Asia Pacific Journal of Clinical Nutrition*, 15 : 558-562.
- Sánchez-Ortiz, A. C., Luna-González, A., Campa-Córdova, A. I., Escamilla-Montes, R., Flores-Miranda, M. C. & Mazón-Suástegui, J. M., 2015, Isolation and Characterization of Potential Probiotic Bacteria from Pustulose Ark (*Anadara tuberculosa*) Suitable for Shrimp Farming, *Latin American Journal of Aquatic Research*, 43(1) : 123-136.
- Sandeepa, G. M., & Ammani, 2014, Probiotic Properties of Bacterium Isolated from Shrimp Cultured Ponds, *International Journal of Scientific and Research Publications*, 4(11).
- Sanders, J. W., Venema, G. & Kok, J., 1999, Environmental Stress Responses in *Lactococcus lactis*, *FEMS Microbiology Reviews*, 23 : 483-501.
- Sanz, Y., Nadal, L. & Sanchez, E., 2007, Probiotic as Drugs Against Human Gastrointestinal Infection, *Recent Pat Antiinfect, Drug Discovery*, 2 : 148-156.
- Saputra, S. W., 2008, Pedoman Identifikasi Udang Penaeid (Subordo Macrura Natantia), Badan Penerbit Universitas Diponegoro, Semarang, 86 p.
- Saraniya, A. & Jeevaratnam, K., 2015, In vitro Probiotic Evaluation of Phytase Producing *Lactobacillus species* Isolated from Uttapam Batter and their Application in Soy Milk Fermentation, *Journal of Food Science and Technology*, 52(9) : 5631-5640.
- Sarkar, S., Sur, A., Sarkar, K., Majhi, R., Basu, S., Chatterjee, K., B. Sikder, B., 2016, Probiotics: A Way of Value Addition in Functional Food. *International Journal of Food Science, Nutrition and Dietetics*, 5(4) : 290-293.
- Sathyanarayanan, J., Kunthala, J. & Gurumurthy, K., 2011, Optimization of MRS Media Components using Response Surface Methodology for the Riboflavin Production by *Lactobacillus fermentum* Isolated from Yoghurt Sample. *International Food Research Journal*, 18, 149-158.

- Savadogo, A., Ouattara, C. A. T., Bassole, I. H. N. & Traore, S. A., 2006, Bacteriocins and Lactic Acid Bacteria - a Minireview , *African Journal of Biotechnology*, 5 : 678-683.
- Sayem, S. M. A., 2006, Effect of Temperature, pH, and Metal Ions on the Activity and Stability of Alkaline Protease from Novel *Bacillus licheniformis* MZK03, *Proceedings of the Pakistan Academy of Sciences*, 43(4) : 257-262.
- Schär-Zammaretti, P. & Ubbink, J., 2003, The Cell Wall of Lactic Acid Bacteria: Surface Constituents and Macromolecular Conformations, *Biophysical Journal*, 85(6) : 4076–4092.
- Schlager, R., Simmon, K. E. and Fisher, M. A., 2012, A Systematic Approach for Discovering Novel, Clinically Relevant Bacteria, *Emerging Infectious Diseases* ,18(3) : 422-430.
- Selvam S. I. K., T. Nirmala, T. & Krishnakumar, J., Effect of probiotic bacteria (*Lactobacillus rhamnosus*) on the survival, growth and immune responses of the fresh water prawn *Macrobrachium idea*, *International Journal of Pharmacy & Biomedical Rese.*2 (3): 1-7.
- Selvam, S. I. K., Nirmala, T. & Krishnakumar, J., 2015, Effect of Probiotic Bacteria (*Lactobacillus rhamnosus*) on the Survival, Growth and Immune Responses of the Fresh Water Prawn *Macrobrachium idea*, *International Journal of Pharmaceutical & Biomedical Research*, 2 (3) : 1-7.
- Sengupta, R., Altermann, E., Anderson, R. C., McNabb, W. C., Moughanand, P. J. & Roy, N. C., 2013, The Role of Cell Surface Architecture of Lactobacilli in Host-Microbe Interactions in the Gastrointestinal Tract, (2013), Article ID 237921, 16 doi: 10.1155/2013/237921.
- Sha, Y., Wang, L., Liu, M., Jiang, K., Xin, F. & Wang, B., 2016, Effects of Lactic Acid Bacteria and the Corresponding Supernatant on the Survival, Growth Performance, Immune Response and Disease Resistance of *Litopenaeus vannamei*, *Aquaculture*, 452 : 28-36.
- Shakila, R. J., Saravanakumar, R., Vyla, S. A. P., Jeyasekaran, G. & Jasmine, G. I., 2006, Antagonistic Activity of the Gut Microflora Isolated from Farmed Tiger Shrimp (*Penaeus monodon*), *Asian Fisheries Science*, 19 : 247-255.
- Sharma, S., Garg, A. P. & Singh, G., 2010, Optimization of Fermentation Conditions for Bacteriocin Production by *Lactococcus lactis* CCSULAC1 on Modified MRS Medium. *International Journal of Dairy Science*, 5 : 1-9.

- Shehata, M.G., El Sohaimy, S.A., El-Sahn, M.A., & Youssef, M.M., 2016, Screening of isolated potential probiotic lactic acid bacteria for cholesterol lowering property and bile salt hydrolase activity, *Annals of Agricultural Science*, 61(1): 65–75.
- Shewale, R. N., Sawale, P. D., Khedkar, C. D. & Singh, A., 2014, Selection Criteria For Probiotics: A Review, *International journal of probiotics & prebiotics*, 9 (1).
- Shigwedha, N., Sichel, L., Jia, L., Al-Shura, A. N. & Zhang, L., 2015, Probiotics, Paraprobiotics, and Probiotical Cell Fragments (PCFs) as Crisis Management Tools for Important Health Problems, *AASCIT J. Med.* 1(1): 1-9.
- Shinn, A., Pratoomyot, J., Jiravanichapisal, P., Delannoy, C., Kijphakapanith, N., Paladini, G. & Griffiths, D., 2016, Counting the cost of aquatic disease in Asia, *AQUA Culture Asia Pacific Magazine*, 12 (1):14-18
- Singh, K. K., Shankar, P. D. & Abdhul, K., 2016, A Study of Microbial Diversity for Bacteriocin Production from *Ngari* Fish And Noble Synthesis of Silver Nanoparticles and its Antimicrobial Activities, *World Journal of Pharmaceutical Science*. 5 ( 3 ) : 953-974.
- Sivakumar, N., Sundararaman, M. & Selvakumar, G., 2012, Probiotic Effect of *Lactobacillus acidophilus* Against Vibriosis in Juvenile Shrimp (*Penaeus monodon*) , *African Journal of Biotechnology*, 91 : 15811-15818.
- Slonczewski, J. L., Fujisawa, M., Dopson, M. & Krulwich, T. A., 2009, Cytoplasmic pH Measurement and Homeostasis in Bacteria and Archaea, *Advances In Microbial Physiology*, 55, DOI: 10.1016/S0065-2911(09)05501-
- Song, Y. L. & Li, C. Y., 2014, Shrimp Immune System – Special Focus On Penaeidin, *Journal of Marine Science and Technology*, 22 (1):1-8
- Soto-Rodriguez, S. A., Gomez-Gil, B. & Lozano, R., 2010, ‘Bright-red’ syndrome in Pacific white shrimp *Litopenaeus vannamei* is caused by *Vibrio harveyi*, *Diseases Of Aquatic Organisms*, 92: 11–19.
- Sparoa, M., Delpecha, D., Batistelli, S. & Basualdo, J. A., 2014, Immunomodulatory properties of cell wall extract from *Enterococcus faecalis* CECT7121 *The Brazilian Journal of Infectious Diseases*, 18(5):551–555
- Sperling, L., Alter. T. & Huehn, S., 2015, Prevalence and Antimicrobial Resistance of *Vibrio* Spp. In Retail and Farm Shrimps in Ecuador, *Journal of Food Protection* , 78 (11) : 2089-2092.

- Sreekumar, G. & Krishnan, S., 2010, Enhanced Biomass Production Study on Probiotic *Bacillus subtilis* SK09 by Medium Optimization using Response Surface Methodology, *African Journal of Biotechnology*, 9(45) : 8078-8084.
- Sreenivasulu, P., Joshi, D.S.D. S., Narendra, K, Rao, G, V. & Satya A. K., 2016, *Bacillus pumilus* as a Potential Probiotic for Shrimp Culture , *International Journal of Fisheries and Aquatic Studies* , 4(1) : 107-110.
- Sritunyalucksana, K, Lee, S. Y. & Söderhäll, K., 2002, A beta-1,3-glucan Binding Protein from the Black Tiger Shrimp, *Penaeus monodon*, Developmental and Comparative, *Immunology*, 26(3) : 237-45.
- Sritunyalucksana, K., Gangnonngiw, W., Archakunakorn, S., Fegan, D. & Flegel, T. W., 2005, Bacterial clearance rate and a new differential hemocyte staining method to assess immunostimulant activity in shrimp, *Diseases of Aquatic Organisms*, 63: 89– 94.
- Stackebrandt, E. & Goebel, B. M., 1994, Taxonomic Note: a Place for DNA-DNA Reassociation and 16S rRNA Sequence Analysis in the Present Species Definition in Bacteriology. *International Journal of Systematic Bacteriology*, 44 : 846–849.
- Stentiford, G. D., Neil, D. M., Peeler, E. J., Shields, J. D., Small, H. J., Flegel, T. W., Vlaskin, J. M., Jones, B., & Morado, F., Moss, S., Lotz, J., Bartholomay, L. C. Behringer, D. C., Hauton, C. & Lightner, D. V., 2012, Disease will limit future food supply from the global crustacean fishery and aquaculture sectors, *Journal of Invertebrate Pathology*, 110:141–157.
- Sugathan, S., Tsalla, T., Gezmu, T., Merdekios, B., Kadaikunnan, S., Idhayadhulla, A., Manilal, A. & Selvin, J., 2015, An *in vivo* Efficacy Validation and Immune-modulatory Potential of *Streptomyces* sp. *Journal of Coastal Life Medicine*, 3(11) : 841-847.
- Sun Y. Z., H. Q. Xia, Yang, H. L., Wang, Y. L. & Zou, W. C., 2014, TLR2 Signaling may Play a Key Role in the Probiotic Modulation of Intestinal Microbiota in Grouper *Epinephelus coioides*, *Aquaculture*, 430 : 50-56.
- Sunaryanto, R. & Tarwadi, 2015, Isolasi dan Karakterisasi Bakteriosin yang Dihasilkan oleh *Lactobacillus lactis* dari Sedimen Laut, *JPB Kelautan dan Perikanan*, 10 (1) : 11–18.
- Suskovic, J., Kos, B., Beganovic, J., Pavunc, A. L., Habjanic, K. & Matosic, S., 2010, Antimicrobial Activity—the Most Important Property of Probiotic and Starter Lactic, *Food Technology and Biotechnology*, 48 : 296–307.

- Suzer, C., Coban, D., Kamaci, H. O., Saka, S., Firat, K., Otgucuoglu, O. & Kucuksari, H., 2008. *Lactobacillus* spp. Bacteria as Probiotics in Gilthead Sea Bream (*Sparus aurata*, L.) larvae: Effects on Growth Performance and Digestive Enzyme Activities. *Aquaculture*, 280 : 140-145.
- Swain, S. M., Singh, C. & Aru, V., 2009, Inhibitory Activity of Probiotics *Streptococcus phocae* PI80 and *Enterococcus faecium* MC13 Against Vibriosis in Shrimp *Penaeus monodon*, *World Journal Microbiology Biotechnology*, 25 : 697-703.
- Swapna K. M., Rajesh, R. & Lakshmanan, P. T., 2012, Incidence of Antibiotic Residues in Farmed Shrimps from the Southern States of India, *Indian Journal of Geomarine Science*, 41(4) : 344-347.
- Swapna, B., Venkatrayulu, C. H. & Swathi, A. V., 2015, Effect of probiotic bacteria *Bacillus licheniformis* and *Lactobacillus rhamnosus* on growth of the Pacific white shrimp *Litopenaeus vannamei* (Boone, 1931), *European Journal of Experimental Biology*, 5(11):31-36.
- Tantikitti, C., Chookird, D. & Phongdara, A., 2016, Effects of fishmeal quality on growth performance, protein digestibility and trypsin gene expression in pacific white shrimp (*Litopenaeus vannamei*), *Songklanakarin Journal of Science & Technology*. 38 (1):73-82.
- Tarunamulia, Faisal, A. & Hasnawi, 2016, Model Estimasi Potensi Dan Arah Pengembangan Lahan Untuk Budidaya Tambak Di Kabupaten Cirebon Provinsi Jawa Barat, *Media Akuakultur*, 11 (1), 47-58.
- Tassanakajon, A., Somboonwiwat, K., Supungul, P. & Tang, S., 2012, Discovery of Immune Molecules and their Crucial Functions in Shrimp Immunity, *Fish & Shellfish Immunology*, doi 10.1016/j.fsi.2012.09.021.
- Thakur, B. K., Saha, P., Banik, G., Saha, D. R., Grover, S., Batish, V. K. & Das, S., 2016, Live and heat-killed probiotic *Lactobacillus casei* Lbs2 protects from experimental colitis through Toll-like receptor 2-dependent induction of T-regulatory response, *International Immunopharmacology*, 36:39-50
- The World Bank, 2013, Fish to 2030, *Prospects for Fisheries and Aquaculture*, Washington DC 20433.
- Thitamadee, S., Prachumwat, A., Srisala, J., Jaroenlak, P., Salachan, P. V., Sritunyalucksana, K., Flegel, T. W. & Itsathitphaisarn, O., 2016, Review Of Current Disease Threats For Cultivated Penaeid Shrimp in Asia, *Aquaculture*, 452 : 69-87.

- Tindall, B. J., Rosselló-Móra, R., Busse, H. J., Ludwig, W. & Kämpfer, P., 2010, Notes on the Characterization of Prokaryote Strains for Taxonomic Purposes, *International Journal of Systematic and Evolutionary Microbiology*, 60 : 249–266.
- Tizon, R. U., Serrano, Jr. A., E. & Traifalgar, R. F., 2012, Effects of pH on Amylase, Cellulase and Protease of the Angelwing clam, *Pholas orientalis*, *European Journal of Experimental Biology*, 2 (6) : 2280-2285.
- Todorov S. D. & Dicks, L. M. T. 2005, Growth Parameters Influencing the Production of *Lactobacillus rhamnosus* Bacteriocins ST461BZ and ST462BZ, *Annals of Microbiology* 55 : 283-289.
- Todorov S. D. & Dicks, L. M. T., 2005, Effect of Growth Medium on Bacteriocin Production by *Lactobacillus plantarum* ST194BZ, a Strain Isolated from Boza, *Food Technology & Biotechnology*, 43 : 165–173.
- Tokati, J.M., Gülgör, G.G. Elmac, J,S, B., Egleyen, N. A. & Özçelik, F., 2015, In Vitro Properties of Potential Probiotic Indigenous Lactic Acid Bacteria Originating from Traditional Pickles, *BioMed Research International*, Article ID 315819, 8 pages, <http://dx.doi.org/10.1155/2015/315819>.
- Tomás, J. M. S., Bru, E., Wiese, B., de Ruiz Holgado, A. A. & Nader-Macías, M. E., 2002, Influence of pH, Temperature and Culture Media on the Growth and Bacteriocin Production by Vaginal *Lactobacillus salivarius* CRL 1328. *Journal of Applied Microbiology*, 93(4) : 714-24.
- Trafalska, E. & Grzybowska, K., 2004, Probiotic – an Alternative for Antibiotics ?, *Wiad Lek*, 57:491-498.
- Tseng D.Y., Ho, P. L., Huang, S. Y., Cheng, SC., Shiu, Y. L., Chiu, C. S. & Liu, C. H., 2009, Enhancement of Immunity and Disease Resistance in the White Shrimp, *Litopenaeus vannamei*, by the Probiotic, *Bacillus subtilis* E20, *Fish & Shellfish Immunology*, 26(2) : 339-344.
- Tufarelli, V. & Laudadio, V., 2016, AN Overview on the Functional Food Concept: Prospectives and Applied Researches in Probiotics, Prebiotics and Synbiotics, *Journal of Experimental Biology and Agricultural Sciences*, 4(3S), doi. 10.18006/2016.4(3S).273.278.
- Tung, H. T, Koshio, S., Traifalgar, R. F., Ishikawa, M. & Yokoyama, S., 2010, Effects of Dietary Heat-killed *Lactobacillus plantarum* on Larval and Post Larval Kuruma Shrimp *Marsupenaeus japonicas* bate. *Journal of World Aquaculture Societes*, 41(1) : 16–27.

- Tung, H. T., Koshio, S., Teshima, S. I., Ishitaka, M., Yokoyama, S., Ren, T., Hirose, Y. & Phuong, N. D. T., 2009, Effects of Heat-skilled *Lactobacillus plantarum* Supplemental Diets on Growth Performance, Stress Resistance and Immune Response of Juvenile Kuruma Shrimp *Marsupenaeus japonicas* Bate. *Aquaculture Science*, 57 (2) : 175-184.
- Turgis, M., Vu, K. D., Millette, M. & Dupont, C., 2016, Monique Lacroix Influence of Environmental Factors on Bacteriocin Production by Human Isolates of *Lactococcus lactis* MM19 and *Pediococcus acidilactici* MM33, *Probiotics and Antimicrobial Proteins*, 8(1) 53–59.
- Upendra, R. S., Khandelwal, P., Jana, K., Kumar, N. A., Devi M. G. & Stephaney, M. L., 2016, Bacteriocin Production from Indigenous Strains of Lactic Acid Bacteria Isolated from Selected Fermented Food Sources, *International Journal of Pharma Research and Health Sciences*, 4 (1) : 982-990.
- USEPA, 2009, *Biopesticides Registration Action Document, L-Lactic Acid*, Office of Pesticide Programs Biopesticides and Pollution Prevention Division, U.S. Environmental Protection Agency.
- Valli, J. S. & Vaseeharan, B., 2012 cDNA Cloning, Characterization and Expression of lipopolysaccharide and  $\beta$ -1,3-glucan Binding Protein (LGBP) Gene from the Indian White Shrimp *Fenneropenaeus indicus*. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 163(1) : 74-81.
- van Hai, N. & Fotedar, R., 2010, A Review of Probiotics in Shrimp Aquaculture, *Journal of Applied Aquaculture* , 22: 3, 251 – 266.
- Vand, Z. D. A., Alishahi, M. & Tabande, M. Z., 2014, Effects of Different Levels of *Lactobacillus casei* As Probiotic on Growth Performance and Digestive Enzymes Activity of *Barbus gryprus*, *International Journal of Biosciences* 4(7) : 106-116.
- Vargas-Albores, F., Martínez-Porchas, M., Arvayo, M. A., Villalpando-Canchola, E., Gollas-Galván, T. & Porchas-Cornejo, M. A., 2016, Immunophysiological Response of Pacific White Shrimp Exposed to a Probiotic Mixture of Proteobacteria and Firmicutes in Farm Conditions, *North American Journal of Aquaculture*, 78 (3).
- Vasseur, C., Baverel, L., Hebraud, M. & Labadie, J., 1999, Effect of Osmotic, Alkaline, Acid or Thermal Stresses on the Growth and Inhibition of *Listeria monocytogenes*, *Journal of Applied Microbiology* , 86 : 469–476.

- Vazquez, L., Alpuche, J., Maldonado, G., Agundis, C., Pereyra-Morales, A. & Zenteno, E., 2009, Immunity mechanisms in crustaceans, *Innate Immunity*.
- Venkatrayulu, Ch., Swapna. B., Swathi, A. V. & Srinivas, D., 2015, Influence of Commercial Probiotics on Digestive Enzyme Activities of Black Tiger Shrimp *Penaeus monodon* (Fabricius) Reared in Semi-Intensive Culture Ponds , *International Journal of Science and Research*, 4 Issue 10, 2195-2200.
- Vermeulen, A., Gysemans, K. P., Bernaerts, K., Geeraerd, A. H., Van Impe, J. F., Debevere, J. & Devlieghere, F., 2007, Influence of pH, Water Activity and Acetic Acid Concentration on *Listeria monocytogenes* at 7 Degrees C: Data Collection for the Development of a Growth/No Growth Model. *International Journal of Food Microbiology*, 114(3) : 332-41.
- Verschuere, L., Rombaut, G., Sorgeloos, P. & Verstraete, W., 2000, Probiotic Bacteria as Biological Control Agents in Aquaculture, *Microbiology and Molecular Biology Reviews*, 64 : 655–671.
- Verschuren, P. M., 2002, Functional Foods: Scientific and Global Perspectives, *British Journal of Nutrition* 88(2) : 125–130.
- Vesterlund, S., Karp, M., Salminen, S. & Ouweland, A. C., 2006, *Staphylococcus aureus* Adheres To Human Intestinal Mucus but can be Displaced by Certain Lactic Acid Bacteria. *Microbiology*, 152 : 1819–1826.
- Vieira , F. N., Jatobá, A., Mouriño, J. L. P., Neto , C. C. B., da Silva ,J. S., Seiffert , W. O., Soares, M. & Vinatea, L. A., 2016, Use of probiotic-supplemented diet on a Pacific white shrimp farm, *Revista Brasileira de Zootecnia*, 45(5):203-207.
- Vieira F. N., Jatobá, A., Mouriño, J. L. P., Neto, C. C. B., da Silva, J. S., Seiffert, W. Q., Soares, M. & Vinatea, L. A., 2016, Use of Probiotic-supplemented Diet on a Pacific White Shrimp Farm, *Revista Brasileira de Zootecnia*, 45(5) : 203-207.
- Vieira R. P., Gonzalez A. M., Cardoso A. M., Oliveira D. N., Albano R. M., Clementino M. M., Martins O. B. & Paranhos, R., 2008, Relationships between Bacterial Diversity and Environmental Variables in a Tropical Marine Environment, Rio de Janeiro, *Environmental Microbiology*, 10(1) : 189-99.

- Vieira, F. D., Pedrotti, F. S., Buglione N. C. C., Mourino, J. L. P., Beltrame, E., Martins, M. L., Ramirez, C. & Arana, L. A. V. 2007. Lactic-Acid Bacteria Increase the Survival of Marine Shrimp, *Litopenaeus vannamei*, after Infection with *Vibrio harveyi*, *Brazilian Journal of Oceanography*, 55 : 251-255.
- Vieira, F. P., Jatobá A., Mouriño, J. L. P., Vieira, E. A., Soares, M., da Silva, B. C., Seiffert, W. Q., Martins, M. L. & Vinatea, L. A., 2013, In vitro selection of Bacteria with Potential for Use as Probiotics in Marine Shrimp Culture, *Pesquisa Agropecuária Brasileira*, 48(8) : 998-1004.
- Vieira, F.N., Buglione, C. C., Mouriño J.P.L., Jatobá, A., Martins, M.L., Schleder, D.D., Andreatta, E.R., Barraco, M.A. & Vinatea, L.A., 2010, Effect of Probiotic Supplemented Diet on Marine Shrimp Survival after Challenge with *Vibrio harveyi*, *Arquivo Brasileiro de Medicina Veterinária e Zootecnia*, 62(3) : 631-638.
- Wakil, S. M., Laba, S. A. & Fasiku, S. A., 2014, Isolation and identification of antimicrobial-producing lactic acid bacteria from fermented cucumber, *African Journal of Biotechnology*, 13(25): 2556-2564.
- Wakil, S. M., Laba, S. A. & Fasiku, S. A., 2014, Isolation and Identification of Antimicrobial-Producing Lactic Acid Bacteria from Fermented Cucumber, *African Journal Of Biotechnology*, 13(25) : 2556-2564.
- Wang, P.H., Liang, J. P., Gu Z. H., Wan, D. H., Weng, S. P., Yu, X. Q. & He, J. G., 2012, Molecular Cloning, Characterization and Expression Analysis of Two Novel Tolls (LvToll2 and LvToll3) and Three Putative Spätzle-like Toll ligands (LvSpz1-3) from *Litopenaeus vannamei*. *Developmental and Comparative Immunology*, 36(2) : 359-71.
- Wang, P.H., Gu, Z. H., Wan, D. H., Zhu, W. B., Qiu W. Chen, Y.G., Weng, S. P., Yu, X. Q. & He, J. G., 2013, *Litopenaeus vannamei* Toll-interacting Protein (LvTollip) is a Potential Negative Regulator of the Shrimp Toll Pathway Involved in the Regulation of the Shrimp Antimicrobial Peptide Gene Penaeidin-4 (PEN4). *Developmental and Comparative Immunology*, 40(3-4) : 266-77.
- Wang, Q., Cui, Y., Lackeyram, D., Yuan, J., Wang, W. & Xu, L., 2010, Effect of Cultural Components on Antimicrobial Activity of Bacteriocin produced by Bacteria Isolated from Gut of Poultry, *African Journal of Microbiology Research*, 19 : 1970-1980.
- Wang, X. W. & Wang, J. X., 2013, Pattern Recognition Receptors Acting in Innate Immune System of Shrimp Against Pathogen Infections, *Fish & Shellfish Immunology*, 34(4) : 981-9.

- Wang, Y. and Gu, Q, 2010, Effect of Probiotics on White Shrimp (*Penaeus vannamei*) Growth Performance and Immune Response, *Marine Biology Research.*, 6 : 3, 327- 332.
- Wang, Y. B., 2007, Effect of Probiotics on Growth Performance and Digestive Enzyme Activity of the Shrimp *Penaeus vannamei*, *Aquaculture*, 269 (1–4) : 259–264.
- Wedajo B., 2015, Lactic Acid Bacteria: Benefits, Selection Criteria and Probiotic Potential in Fermented Food. *Journal of Probiotic Health* 3 : 129.
- Wells. J.M., 2011, Immunomodulatory Mechanisms of *Lactobacilli*, *Wells Microbial Cell Factories*, 10 : S17.
- Wong, A. C. N., Vanhove, A. S. & Watnick, P. I., 2016, The Interplay Between Intestinal Bacteria and Host Metabolism in Health And Disease: Lessons from *Drosophila melanogaster*, *Disease Models & Mechanisms*, 9(3): 271–281. doi: 10.1242/ dmm.023408.
- Woo, P. C. Y., Lau, S. K. P., Teng, J. L. L., Tse H. & Yuen, K.Y. 2008, Then and Now: Use of 16S rDNA Gene Sequencing for Bacterial Identification and Discovery of Novel Bacteria in Clinical Microbiology Laboratories, *Clinical Microbiology and Infection*, 14 (10): 908 – 934.
- Xia, Z., Zhu, M. & Zhang, Y., 2013, Effects of the probiotic *Arthrobacter* sp. CW9 on the Survival And Immune Status Of White Shrimp (*Penaeus vannamei*) *Letters in Applied Microbiology*, 58: 60-64. doi:10.1111/lam.12156.
- Xia, Z., Zhu, M. & Zhang, Y., 2014, Effects of the Probiotic *Arthrobacter* sp. CW9 on the survival And Immune Status Of White Shrimp (*Penaeus vannamei*). *Letter of Applied Microbiology*, 58: 60–64.
- Yanbo, W., & Zirong, X, 2006, Effect of Probiotics For Common Carp (*Cyprinus Carpio*) Based on Growth Performance and Digestive Enzyme Activities, *Animal Feed Science and Technology* 127(3-4): 283–292.
- Yang, B., Wang, Y. & Qian, P. Y., 2016, Sensitivity and correlation of hypervariable regions in 16S rRNA genes in phylogenetic analysis, *BMC Bioinformatics*, 17 (1). doi: 10.1186/ s12859-016-0992-y.
- Yang, C. C., Lu, C. L., Chen, S. & Chen, S. N., 2015, Immune Gene Expression for Diverse Haemocytes Derived from Pacific White Shrimp, *Litopenaeus vannamei*. *Fish & Shellfish Immunology*, 44 (1). doi: 10.1016/j.fsi.2015.02.001.

- Yang, H., Han, Y., Ren, T., Jiang, Z., Wang, F. & Zhang, Y., 2016, Effects of Dietary Heat-Killed *Lactobacillus Plantarum* L-137 (HK L-137) on The Growth Performance, Digestive Enzymes and Selected Non-Specific Immune Responses in Sea Cucumber, *Apostichopus japonicus* Selenka, *Aquaculture Research*, 47: 2814–2824. doi:10.1111/are.12731.
- Yang, N., Fan, L., Jiang, Y., Doucette, C. & Fillmore, S., 2012, Antimicrobial Activity of Bacteriocin-Producing Lactic Acid Bacteria Isolated from Cheeses and Yogurts, *AMB Express*, 2:48.
- Zacharof, M. P. & Lovitt, R.W., 2012, Bacteriocins Produced by Lactic Acid Bacteria, A Review Article, *APCBEE Procedia* 2 ( 2012 ) 50 – 56.
- Zalán, Z. , Németh, E., Baráth , Á. & Halász, A.. 2005, Influence of Growth Medium on Hydrogen Peroxide and Bacteriocin Production of *Lactobacillus* Strains, *Food Technology and Biotechnology*, 43:219–225.
- Zhang J, Zhang, Y., Liu, S.N., Han, Y. & Zhou, Z. J., 2012, Modelling Growth and Bacteriocin Production by *Pediococcus acidilactici* PA003 as a Function of Temperature and pH value, *Applied Biochemistry and Biotechnology*. 166 :1388-400.
- Zheng, B., Wang, L. & Liu, L., 2014, Bacterial Community Structure and its Regulating Factors in the Intertidal Sediment Along the Liaodong Bay of Bohai Sea, China, *Microbiology Research*, 169(7-8):585-92. doi: 10.1016/j.micres.2013.09.019.
- Zheng, C. N. & Wang, W., 2016, Effects of *Lactobacillus pentosus* on the Growth Performance, Digestive Enzyme and Disease Resistance of White Shrimp, *Litopenaeus vannamei* (Boone, 1931). *Aquac Res.* doi:10.1111/are.13110
- Zhou, X. & Wang, Y., 2003. Probiotic in aquaculture-Benefits to the Health, Technological Applications and Safety, dalam Health and Environment in Aquaculture, E. Carvalho (ed.), InTech Europe, Croatia. p.215-226.
- Zhou, X.X., Pan, Y.J., Wang, Y. B. & Li. W.F., 2008, Optimization of medium composition for nisin fermentation with response surface methodology, *Journal of Food Science*, 73(6):245-249.
- Ziaei-Nejad, S., Rezaei, M. H., Takami, G. A., Lovett, D. L., Mirvaghefi, A.R. & Shakouri, M. 2006. The Effect of *Bacillus* spp. bacteria used as Probiotics On Digestive Enzyme Activity, Survival and Growth In The Indian White Shrimp *Fenneropenaeus indicus*. *Aquaculture*, 252: 516–52.

Zokaeifar, H.; Balcazar, J. L., Kamarudin, M.S., Sijam, K., Arshad, A. & Saad, C. R., 2012, Selection and Identification Of Non-Pathogenic Bacteria Isolated From Fermented Pickles With Antagonistic Properties Against Two Shrimp Pathogens. *Journal Of Antibiotics*, 65(6):289-94.

Zokaeifar, H., Balcázar, J. L., Saad, C. R., Kamarudin , M. S., Sijam, K., Arshad, A. & Nejat, N, 2012, Effects of *Bacillus subtilis* on the Growth Performance, Digestive Enzymes, Immune Gene Expression and Disease Resistance of White Shrimp, *Litopenaeus vannamei*, *Fish & Shellfish Immunology*,33:683-689.