



Assoc. Prof. Dr. CHAROONROJ CHOTWIWATTHANAKUN (Ph.D.)

Experience

- 2543-2546 ดำรงตำแหน่ง อาจารย์ สังกัด คณะสหเวชศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ
- 2552-2556 ดำรงตำแหน่ง อาจารย์ สังกัด โครงการจัดตั้งวิทยาเขตนครสวรรค์ สำนักงาน อธิการบดี มหาวิทยาลัยมหิดล
- 2556-2560 ดำรงตำแหน่ง ผู้ช่วยศาสตราจารย์ สาขาวิชาชีวเคมี สังกัดฝ่ายวิชาการและ หลักสูตร โครงการจัดตั้งวิทยาเขตนครสวรรค์ สำนักงานอธิการบดีมหาวิทยาลัยมหิดล
- 2560-ปัจจุบัน ดำรงตำแหน่ง รองศาสตราจารย์ สาขาวิชาชีวเคมี สังกัดฝ่ายวิชาการและหลักสูตร โครงการจัดตั้งวิทยาเขตนครสวรรค์ สำนักงานอธิการบดีมหาวิทยาลัยมหิดล
- 2564 - ปัจจุบัน ดำรงตำแหน่ง กรรมการสภาคณาจารย์ มหาวิทยาลัยมหิดล วาระดำรงตำแหน่งปี พ.ศ. 2564 - 2566

Publication

1. Chotwiwatthanakun C, Pratanaphon R, Akesowan S, Sriprapat S, Ratanabanangkoon K. Production of potent polyvalent antivenom against three elapid venoms using a low dose, low volume, multi-site immunization protocol. *Toxicon*. 2001; 39(10): 1487-94.
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7. Anuracpreeda P, Songkoomkrong S, Sethadavit M, Chotwiwatthanakun C, Tinikul Y, Sobhon P. *Fasciola gigantica*: Production and characterization of a monoclonal antibody against recombinant cathepsin B3 *Experimental Parasitology*.2011; 127(2):340-5.
8. Sroyraya M, Chotwiwatthanakun C, Stewart MJ, Soonklang N, Kornthong N, Phoungpetchara I, Hanna P, Sobhon P. Bilateral eyestalk ablation of the blue swimmer crab, *Portunus pelagicus*, produces hypertrophy of the androgenic gland and an increase of cells producing insulin-like androgenic gland hormone. *Tissue Cell*. 2010; 42(5): 293-300.

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EXPERTISE

- Molecular biology of crustacean endocrinology
- Molecular biology of crustacean pathogen-host interaction
- Aquatic animal diseases
- Biotechnology for crustacean diseases prevention and therapy
- Biochemistry and microbiology



Publication

9. Tinikul Y, Poljaroen J, Nuurai P, Anuracpreeda P, **Chotwiwatthanakun C**, Phoungpetchara I, Kornthong N, Poomtong T, Hanna PJ, Sobhon P. Existence and distribution of gonadotropin-releasing hormone-like peptides in the central nervous system and ovary of the Pacific white shrimp, *Litopenaeus vannamei*. *Cell Tissue Res*. 2011; 343(3):579-93.
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26. Jariyapong P, **Chotwiwatthanakun C**, Direkbusarakom S, Hirono I, Wuthisuthimethavee S, Weerachatanukul W. Delivery of double stranded RNA by *Macrobrachium rosenbergii* nodavirus-like particles to protect shrimp from white spot syndrome virus. *Aquaculture*, 2015; 435: 86-9

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37. Jariyapong P, Pudgerd A, Weerachatanukul W, Hirono I, Senapin S, Dhar AK, **Chotwiwatthanakun C**. Construction of an infectious *Macrobrachium rosenbergii* nodavirus from cDNA clones in Sf9 cells and improved recovery of viral RNA with AZT treatment. *Aquaculture*, 2018; 483: 111-9.

38. **Chotwiwatthanakun C**, Santimanawong W, Sobhon P, Wongtripop S, Vanichviriyakit R. Inhibitory effect of a reproductive-related serpin on sperm trypsin-like activity implicates its role in sperm maturation of *Penaeus monodon*. *Mol. Reprod Dev*. 2018; 85: 205-14.

39. Duangprom S, Ampansri W, Suwansa-Ard S, **Chotwiwatthanakun C**, Sobhon P, Kornthong N. Identification and expression of prostaglandin E synthase (PGES) gene in the central nervous system and ovary during ovarian maturation of the female mud crab, *Scylla olivacea*. *Anim Reprod Sci*. 2018;198: 220-32.

40. Kiatmetha P, **Chotwiwatthanakun C**, Jariyapong P, Santimanawong W, Ounjai P, Weerachatanukul W. Nanoparticle designed from an infectious hypodermal and hematopoietic necrosis virus (IHNV) has excellent physical stability and ability to deliver shrimp tissues. *PeerJ*. 2018; 18;6:e6079. doi: 10.7717/peerj.6079. eCollection 2018.

41. Jariyapong P, Pudgerd A, Cheloh N, Hirono I, Kondo H, Vanichviriyakit R, Weerachatanukul W, **Chotwiwatthanakun C**. Hematopoietic tissue of *Macrobrachium rosenbergii* plays dual roles as a source of hemocyte hematopoiesis and as a defensive mechanism against *Macrobrachium rosenbergii* nodavirus infection. *Fish Shellfish Immunol*. 2019;86:756-763.

42. Kruangkum T, Saetan J, **Chotwiwatthanakun C**, Vanichviriyakit R, Cummins SF, Wanichanon C, Sobhon P. Existence of an egg-laying hormone-like peptide in male reproductive system of the giant freshwater prawn, *Macrobrachium rosenbergii*. *Acta Histochem*. 2019; 121(2):156-163.

43. Jariyapong P, **Chotwiwatthanakun C**, Pooljun C, Weerachatanukul W. Infectious hypodermal and hematopoietic necrosis virus-like particles encapsulating VP28 double-stranded RNA protect shrimp from white spot syndrome virus. 2019; *Aquaculture* 504, pp. 260-266



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EXPERTISE

- Molecular biology of crustacean endocrinology
- Molecular biology of crustacean pathogen-host interaction
- Aquatic animal diseases
- Biotechnology for crustacean diseases prevention and therapy
- Biochemistry and microbiology



Publication

44. Pudgerd A, **Chotwiwatthanakun C**, Kruangkum T, Itsathitphaisarn O, Sritunyalucksana K, Vanichviriyakit R. The hematopoietic organ of *Macrobrachium rosenbergii*: Structure, organization and immune status. *Fish Shellfish Immunol.* 2019; 88:415-423.

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47. Jariyapong P, Vanichviriyakit R, **Chotwiwatthanakun C**, Pudgerd A. Alteration of the haemocyte parameters, expression of immune-related and neurohormone bursicon genes of giant river prawn *Macrobrachium rosenbergii* (de Man) in the response to salinity stress and ammonia stress. *Aquaculture Res* 2020; 51(6): 2573-81.

48. Surinlert P, Sukonset C, Khongkha T, **Chotwiwatthanakun C**, Vanichviriyakit R, Weerachatanukul W, Asuvapongpatana S. Existence and distribution of Niemann-Pick type 2C (NPC2) in prawn reproductive tract and its putative role as a cholesterol modulator during sperm transit in the vas deferens. *Cell Tissue Res.* 2020; 382(2):381-390.

49. Pudgerd A, Kruangkum T, Sritunyalucksana K, Vanichviriyakit R, Imsonpang S, **Chotwiwatthanakun C**. Immunopathogenesis of hematopoietic tissues in response to *Vibrio parahaemolyticus* (VPAHPND) infection in *Macrobrachium rosenbergii*. *Fish Shellfish Immunol.* 2021; 110:10-22.

50. Thongbuakaew T., Sumpownon C., Engsusophon A., Kornthong N., **Chotwiwatthanakun C.**, Meeratana P. Sobhon P. Characterization of prostanoid pathway and the control of its activity by the eyestalk optic ganglion in the female giant freshwater prawn, *Macrobrachium rosenbergii*. *Heliyon* 2021; 7: e05898.

51. Wuthisathid K, Chaijarasphong T, **Chotwiwatthanakun C**, Somrit M, Sritunyalucksana K, Itsathitphaisarn O. Co-expression of double-stranded RNA and viral capsid protein in the novel engineered *Escherichia coli* DualX-B15(DE3) strain. *BMC Microbiol.* 2021;21(1):88.

52. Weerachatanukul W, **Chotwiwatthanakun C**, Jariyapong P. Dual VP28 and VP37 dsRNA encapsulation in IHNV virus-like particles enhances shrimp protection against white spot syndrome virus. *Fish Shellfish Immunol.* 2021;113:89-95.

53. Thansa K, Kruangkum T, Pudgerd A, Chaichandee L, Amparyup P, Suebsing R, **Chotwiwatthanakun C**, Vanichviriyakit R, Sritunyalucksana K. Establishment of hematopoietic tissue primary cell cultures from the giant freshwater prawn *Macrobrachium rosenbergii*. *Cytotechnology.* 2021;73(2):141-157.

54. Grataitong K, Huault S, **Chotwiwatthanakun C**, Jariyapong P, Thongsum O, Chawiwithaya C, Chakrabandhu K, Hueber AO, Weerachatanukul W. Chimeric virus-like particles (VLPs) designed from shrimp nodavirus (MrNV) capsid protein specifically target EGFR-positive human colorectal cancer cells. *Sci Rep.* 2021;11(1):16579.

55. Laphyai P, Kruangkum T, **Chotwiwatthanakun C**, Semchuchot W, Thajjongrak P, Sobhon P, Tsai PS, Vanichviriyakit R. Suppression of a Novel Vitellogenesis-Inhibiting Hormone Significantly Increases Ovarian Vitellogenesis in the Black Tiger Shrimp, *Penaeus monodon*. *Front Endocrinol (Lausanne).* 2021;12:760538.

56. Weerachatanukul W, Pooljun C, Hirano I, Kondo H, **Chotwiwatthanakun C**, Jariyapong P. Infectious hypodermal and hematopoietic necrosis virus-like particle (IHNV-VLP) induces peroxiredoxin expression and activity in *Fenneropenaeus merguensis*. *Fish Shellfish Immunol.* 2022;121:53-61.

57. Thajjongrak P, **Chotwiwatthanakun C**, Laphyai P, Prachumwat A, Kruangkum T, Sobhon P, Vanichviriyakit R. Molecular characterization and expression profiling of transformer 2 and fruitless-like homologs in the black tiger shrimp, *Penaeus monodon*. *PeerJ.* 2022;10:e12980. doi: 10.7717/peerj.12980. eCollection 2022.

58. Kruangkum, T., Duangprom, S., Songkoomkrong, S., **Chotwiwatthanakun, C.**, Vanichviriyakit, Sobhon, P., Kornthong, N. Discovery of a hidden form of neuropeptide F and its presence throughout the CNS-gut axis in the mud crab, *Scylla olivacea*. *Frontiers in Marine Science*, 2022, 9, 951648.

59. Grataitong, K., **Chotwiwatthanakun, C.**, Thongsum, O., Chakrabandhu, K., Weerachatanukul, W., Chimeric MrNV-GE11-VLPs serve as a nano-container to deliver Doxorubicin into cancer cells. *Songklanakarin J. Sci. Technol.* 2022; 44(6), 1517-1523.

60. Semchuchot W, **Chotwiwatthanakun C**, Santimanawong W, Kruangkum T, Thajjongrak P, Wityachumnarnkul B, Vanichviriyakit R. Sesquiterpenoid pathway in the mandibular organ of *Penaeus monodon*: Cloning, expression, characterization of PmJHMT and its alteration response to eyestalk ablation. *Gen Comp Endocrinol.* 2023; 331:114176.



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Publication

61. Weerachathanukul W, Pooljun C, Hirono I, **Chotwiwatthanakun C**, Jariyapong P. Infectivity and virulence of the infectious *Macrobrachium rosenbergii* nodavirus produced from *Drosophila melanogaster* cell using *Penaeus merguensis* as an infection model. *Fish Shellfish Immunol.* 2023 ;132:108474.

62. Weerachathanukul W, Kiatmetha P, Raksat P, Boonkua S, Thongsum O, Jariyapong P, **Chotwiwatthanakun C**, Ounjai P, Metlagel Z. Viral Capsid Change upon Encapsulation of Double-Stranded DNA into an Infectious Hypodermal and Hematopoietic Necrosis Virus-like Particle. *Viruses.* 2023, 15(1), 110.

63. Tongnunui, S., Sooksawat, T., **Chotwiwatthanakun, C.**, Weerayuth, S., Wattanakornsiri, A., Beamish, F.W.H. Seasonal Changes in Upper Thermal Tolerances of Freshwater Thai Fishes. *Water (Switzerland)*, 2023, 15(2), 350. (Co-author)



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