List of RGJ advisors 2023/2024

Name:	Asada Leelahavanichkul		
Program:	Immunology	Department:	Microbiology
Faculty:	Medicine	University:	Chulalongkorn
Telephone:	081-714-9750	Email:	aleelahavanit@gmail.com
Keywords:	kidney injury, epigenetics, DNA damage, mgmt, mouse model		
Summary of research:	Anti-inflammatory epigenetic alteration in innate immune cells through blockage of DNA damage repair methyl-guanine methyl transferase (MGMT) will be explored both in vivo (renal ischemia model) and in vitro (macrophages and neutrophils) using LyM-Cre *mgmt* conditional depletion mice versus wild type mice.		

☑การกรอกรายละเอียดในแบบฟอร์มนี้ ต้องดำเนินการให้ครบถ้วนตามความเป็นจริง หากตรวจสอบพบว่ามีการปกปิดหรือเป็นเท็จ วช. ขอสงวนสิทธิ์ที่จะไม่พิจารณาสนับสนุนและจะเป็นผู้ไม่มีสิทธิ์รับทุน วช. เป็นเวลา ๓ ปี

แบบเสนอโครงการวิจัย (Research Project)
ประกอบการเสนอขอทุนอุดหนุนการวิจัยของสำนักงานการวิจัยแห่งชาติ (วช.)
โครงการปริญญาเอกกาญจนาภิเษก (คปก.) ภายใต้ความร่วมมือไตรภาคีไทย-สวีเดน
ประจำปีงบประมาณ ๒๕๖๗

๑. **ชื่อโครงการวิจัย** (ภาษาไทย) การยับยั้งการซ่อมแซมดีเอ็นเอของ myeloid cells เพื่อลดความรุนแรงของภาวะการอักเสบของไตจากการขาดเลือดโดยใช้หนูที่ขาด mgmt โดยระบบ LysM-Cre เพื่อค้นหาข้อบ่งใช้ของสารยับยั้ง MGMT

(ภาษาอังกฤษ) Defect on DNA damage repair of myeloid cells in ischemic reperfusion injury using conditional *mgmt*-deleted LysM-Cre mice, the possible impacts of MGMT Inhibitor in kidney disease

๒. **ชื่อ-สกุล อาจารย์ที่ปรึกษา** อัษฎาศ์ ลีฬหวนิชกุล (Asada Leelahavanichkul)
หน่วยงาน สาขาภูมิคุ้มกันวิทยา ภาควิชา จุลชีววิทยา คณะแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย (Immunology Unit, Department of Microbiology, Faculty of Medicine, Chulalongkorn University) สถานที่อยู่ที่ติดต่อได้สะดวก ตึก อปร. ชั้น 17 รพ. จุฬาลงกรณ์ สภากาชาดไทย (17th floor Aor Por Ror Building, King Chulalongkorn Memorial Hospital) พร้อมหมายเลขโทรศัพท์ โทรศัพท์มือถือ 081-714-9750 โทรสาร และไปรษณีย์อิเล็กทรอนิกส์ aleelahavanit@gmail.com

๓. **กลุ่มสาขาวิทยาศาสตร์พื้นฐานที่สมัคร** (เลือกเพียง ๑ กลุ่ม)
☑ ชีววิทยา (Biology) ☐ เคมี (Chemistry)
☐ ฟิสิกส์ (Physics) ☐ คณิตศาสตร์ (Mathematics)

๔. **ผู้ใช้ประโยชน์ (Research stakeholders)** (กรณีมีความร่วมมือฯ) เช่น ความร่วมมือของหน่วยงานภาครัฐ (เช่น กระทรวง กรม)/เอกชนที่ร่วมสนับสนุนทุนวิจัย เช่น MOU เป็นต้น
☐ มี.....☑ ไม่มี

๕. **คำสำคัญ (Keyword):**

methylguanine methyltransferase, macrophage, neutrophil, LysM-Cre mice

๖. ความสำคัญและที่มาของปัญหาที่ทำการวิจัย (Problem statement and significance of research)

Acute kidney injury (AKI) is one of the important healthcare problems worldwide with a significant economic loss due to the induction of chronic kidney disease and renal replacement therapy (1). The most common cause of AKI is renal ischemia from several causes that induce inflammation against the necrotic cells mostly by innate immune cells, especially macrophages and neutrophils (1). The inflammatory responses from these myeloid innate immune cells against the renal tissue cause renal damage and exacerbate the progression of fibrosis in kidney leading to end stage renal condition and fastening the initiation of renal replacement therapy. Although the best supportive treatment is the only main theme of current AKI management, several novel anti-inflammatory strategies (2, 3, 4) are interesting which, at least some, some of them might be able to attenuate inflammation-induced renal injury. The delay progression of AKI into chronic kidney disease (CKD) and postponing the need for renal replacement therapy will be benefit to the patients and the economic status of the country. The O6-methylguanine-DNA methyltransferase (MGMT) is a DNA suicide repair enzyme and the blockage of MGMT might reduce functions of innate immune cells enough to attenuate renal damage of ischemia-induced kidney injury.

๗. ทฤษฎี/สมมุติฐานของโครงการ (Hypothesis)

Blockage of DNA repair in myeloid cells (macrophages and neutrophils) attenuates damages in kidney during acute kidney injury (AKI).

๘. วัตถุประสงค์ของโครงการ (Objectives)

๘.๑ To compare the severity of acute kidney injury (AKI) in LysM-Cre *mgmt* conditional deletion mice versus wild type mice

๘.๒ To see the possible impact of mgmt. inhibitor on AKI attenuation

๙. การทบทวนวรรณกรรม/ผลงานวิจัยที่เกี่ยวข้อง (Literature Review)

Anti-inflammatory epigenetic alteration in innate immune cells through blockage of DNA damage repair methyl-guanine methyl transferase (MGMT)

Several manipulations for controlling functions of innate immune cells (macrophage and neutrophil), have been mentioned (5), including the control through epigenetic change (an alteration in the gene translation processes without an alteration in the genetic code through the modification level on histone, DNA, and RNA (6). DNA damage repair (DDR) pathways maintain cell function after stress-induced DNA methylation that produces N -methylated purines and O6 -methylguanine (O6MeG) (5, 6). The methylated DNA bases are removed by base excision repair initiated by the alkyladenine-DNA glycosylase, the family of AlkB homologs proteins, and the suicidal enzyme O6 -methylguanine-DNA methyltransferase (MGMT) (5, 6). MGMT blockage is a powerful inducers of cell death via the formation of O6MeG in cancer cells and MGMT blockage in macrophages causes anti-inflammation in sepsis mouse models (5, 6). However, the possible use of MGMT blockage which is clinically available for cancer treatment in other pro-inflammatory conditions is also possible.

Inflammation worsens renal damage after ischemic acute kidney injury

Ischemic reperfusion injury is a common cause of AKI through a relatively low blood perfusion to kidney from several causes, including drugs, hypovolemic shock, and distributive shock (sepsis and anaphylaxis). Innate immune cells, especially macrophages and neutrophils, are responsible for the post-ischemic damages through several mechanisms; such as M1-pro-inflammation and neutrophil extracellular traps (NETs) (1, 2, 7). Hence, the blockage of innate immune cells might be possible to attenuate post-ischemic renal damages. Interestingly, LysM-Cre *mgmt* deletion mice allowing the exploration of mice with the *mgmt* depletion only in myeloid cells (macrophages and neutrophils), but not other cell types, leading to a more solid conclusion on impacts of *mgmt* than the use of *mgmt* knock-out mice.

๑๐. ระเบียบวิธีวิจัย (Methodology)

1. **Ischemic reperfusion injury model**

   Male 8-wk-old mice from LysM-Cre *mgmt* deletion mice and wild type group will be operated for ischemia reperfusion injury according to an established protocol (1). At 24 or 48 h later, mice will be sacrifice through cardiac puncture under isoflurane anesthesia with

sample collection (blood and organs). Organs (kidney, liver, and lung) will be explored for histological injury using hematoxylin and eosin color and the fluorescent colors (Ly6G, F4/80, myeloperoxidase, neutrophil elastase) to see the accumulation of macrophages, neutrophils, and neutrophil extra cellular traps (NETs) formation. In parallel, organs will be used to explore gene expression by polymerase chain reaction and Western blot analysis of several inflammatory pathways.

2. Macrophage functions

   Bone marrow derive macrophages will be extracted from the long bones according to an established protocol (4). Then, the macrophages from mgmt.-depleted and WT mice will be activated by a representative uremia toxin (indoxyl sulfate) and/ or lipopolysaccharide with or without MGMT blocker to see the possible different responses, especially M1 and M2 macrophage polarization by PCR (iNOS, IL-1b, arginase, etc.), flow cytometry analysis (CD86 and CD206), and supernatant cytokines.

3. Neutrophil functions

   Neutrophils will be extracted from mgmt.-depleted and WT mice using thioglycolate-based method as previously described (1) or magnetic cell sorting. The cells will be activated as similar to the macrophage experiments to explores NETosis, cytokines, and gene expression by PCR.

๑๑. **ขอบเขตของการวิจัย (Scope of the study);** in vivo and in vitro experiments using LyM-Cre *mgmt* conditional deletion mice versus wild type group.

๑๒. **ผลผลิต (Output) ผลลัพธ์ (Outcome) และ ผลกระทบ (Impact) ที่คาดว่าจะได้จากการวิจัย**

Output and outcome: the new knowledge on the extended indication to use MGMT blockage in non-cancer conditions. Also, at least 2 international publications (higher than Q1) will be generated from this proposal.

Impact: the use of MGMT blockage will change the current management of AKI that currently have only a supportive treatment.

References

1. Saithong S, ,,,, Leelahavanichkul A. Candida Administration Worsens Neutrophil Extracellular Traps in Renal Ischemia Reperfusion Injury Mice: An Impact of Gut Fungi on Acute Kidney Injury. J Innate Immun. 2022;14(5):502-517.
2. Saisorn W, ..., Leelahavanichkul A. Acute Kidney Injury Induced Lupus Exacerbation Through the Enhanced Neutrophil Extracellular Traps (and Apoptosis) in Fcgr2b Deficient Lupus Mice With Renal Ischemia Reperfusion Injury. Front Immunol. 2021 Jun 24;12:669162.
3. Tungsanga S, ..., Leelahavanichkul A. Lactobacillus rhamnosus L34 attenuates chronic kidney disease progression in a 5/6 nephrectomy mouse model through the excretion of anti-inflammatory molecules. Nephrol Dial Transplant. 2022 Jul 26;37(8):1429-1442.
4. Dang CP, Leelahavanichkul A. Over-expression of miR-223 induces M2 macrophage through glycolysis alteration and attenuates LPS-induced sepsis mouse model, the cell-based therapy in sepsis. PLoS One. 2020 Jul 13;15(7):e0236038..
5. Saisorn W, ..., Leelahavanichkul A. Less Severe Lipopolysaccharide-Induced Inflammation in Conditional mgmt-Deleted Mice with LysM-Cre System: The Loss of DNA Repair in Macrophages. Int J Mol Sci. 2023 Jun 14;24(12):10139.
6. Sae-Khow K, ..., Leelahavanichkul A. Less Severe Polymicrobial Sepsis in Conditional mgmt-Deleted Mice Using LysM-Cre System, Impacts of DNA Methylation and MGMT Inhibitor in Sepsis. Int J Mol Sci. 2023 Jun 15;24(12):10175.
7. Dang CP, ..., Leelahavanichkul A. BAM15, a Mitochondrial Uncoupling Agent, Attenuates Inflammation in the LPS Injection Mouse Model: An Adjunctive Anti-Inflammation on Macrophages and Hepatocytes. J Innate Immun. 2021;13(6):359-375.

CURRICULUM VITAE

Name: Asada Leelahavanichkul

Thai: อัษฎาศ์ ลีหหาวนิชกุล

Work Address: Immunology Unit

Department of microbiology

Chulalongkorn University

Bangkok, Thailand

Tel: (02) 256-4132

Fax: (02) 252-5952

E-mail: a_leelahavanit@yahoo.com

Educations:

1990-1996	M.D. (honors), Chulalongkorn University, Thailand
2002	Board of Internal Medicine, Thailand
2003	Board of Family Medicine, Thailand
2004	Board of Nephrology, Thailand
	Master of Science, Chulalongkorn University, Thailand
2005-2010	Visiting fellow at National Institute of Diabetes and Digestive and Kidney Disease, National Institutes of Health, Bethesda, MD, USA
2010	PhD (Biomedical Science), Chulalongkorn University, Thailand
2019	Board of Clinical Pathology, Thailand

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Chulalongkorn University, Bangkok, Thailand	M.D.	1996	General doctor
Chulalongkorn University, Bangkok, Thailand	M.D. (specialty)	2002	Internal Medicine
Chulalongkorn University, Bangkok, Thailand	M.D. (specialty)	2003	Family Medicine
Chulalongkorn University, Bangkok, Thailand	M.S. and M.D. (specialty)	2004	Nephrology
Chulalongkorn University, Bangkok, Thailand	PhD.	2010	Biomedical Science
Chulalongkorn University, Bangkok, Thailand	M.D. (specialty)	2019	Clinical pathology

Brief Chronology of Employment

2011- present	Lecturer, Immunology unit, Department of microbiology, Chulalongkorn University, Thailand
	Invited Lecturer, Division of Nephrology, Department of Medicine,

	Chulalongkorn University, Thailand
2005- 2010	Visiting Fellow, Kidney Disease Branch, National Institute of Diabetes and Digestive and Kidney Disease, Bethesda, MD, USA
2004-2005	Instructor, Division of Nephrology, Department of Internal Medicine, Faculty of Medicine, Chulalongkorn University, Thailand
1998-1999	General practice, Ongkarag Hospital, Nakornnayok, Thailand
1997-1998	General practice, Savee Hospital, Chumpon, Thailand
1996-1997	Internship, Maharajch Hospital, Nakornsridhammaraj, Thailand

Honors:

2022	Most citation awards in pre-clinical level (2019-2022) from Research Affairs, Faculty of Medicine, Chulalongkorn University
2021	Categorized as an expert in sepsis by "expertscape.com"
2017	2nd place of award from the Department of Medical Science (DMSc award) in Medical Research on *Lactobacillus rhemnosus* derived from Thai infant for *Clostridium difficile* infection treatment
2016	Cerebos Award from Cerebos incorporation (BRAND's) with the study of Lactobacillus rhemnosus derived from Thai infant for sepsis prevention
2016	National Outstanding Researcher Award on Using Animals for Scientific Purpose Development (IAD) from National Research Council of Thailand (NRCT) (รางวัลนักวิจัยดีเด่นที่ใช้สัตว์เพื่องานทางวิทยาศาสตร์ รางวัล สพสว. (IAD Award) ประจำปี พศ. 2559 โดยสถาบันพัฒนาการดำเนินการต่อสัตว์เพื่องานทางวิทยาศาสตร์ (สพสว) สำนักงานคณะกรรมการวิจัยแห่งชาติ (วช.)) 2016 Rachadapisak Sompotch award from Chulalongkorn University with the study of NGAl in bilaterat nephrectomy versus bilateral ureter obstruction model
2005	Visiting fellow award, Kidney Disease Branch, National Institute of Diabetes and Digestive and Kidney Disease

Professional Membership and Associations:

The Medical Council of Thailand

The Royal College of Physicians of Thailand

The Nephrology Society of Thailand

The Clinical Pathology Society of Thailand

Publications:

1. **Leelahavanichkul A**, Areepium N, Vadcharavivad S, Praditpornsilpa K, Avihingsanon Y, Karnjanabuchmd T, Eiam-Ong S and Tungsanga K. Pharmacokinetics of Sirolimus in Thai Healthy Volunteers. *J Med Assoc Thai* 2005: **88** Suppl 4: S157-62.
2. Nurnuansuwan S, **Leelahavanichkul A**, Pansin P and Eiam-Ong S. Intravenous iron administration during the maintenance period in erythropoietin-treated hemodialysis patients: a simple and effective method. *J Med Assoc Thai* 2005: **88** Suppl 4: S184-8.

3. Kanjanabuch T, Kittikovit W, Lewsuwan S, **Leelahavanichkul A**, Avihingsanon Y, Praditpornsilpa K, Eiam-Ong S, Tungsanga K and Sitprija V. Etiologies of glomerular diseases in Thailand: a renal biopsy study of 506 cases. *J Med Assoc Thai* 2005: **88** Suppl 4: S305-11.

4. Pichaiwong W, **Leelahavanichkul A** and Eiam-ong S. Efficacy of cellulose triacetate dialyzer and polysulfone synthetic hemofilter for continuous venovenous hemofiltration in acute renal failure. *J Med Assoc Thai* 2006: **89** Suppl 2: S65-72.

5. Dear JW, **Leelahavanichkul A**, Aponte A, Hu X, Constant SL, Hewitt SM, Yuen PS and Star RA. Liver proteomics for therapeutic drug discovery: inhibition of the cyclophilin receptor CD147 attenuates sepsis-induced acute renal failure. *Crit Care Med* 2007 Oct; **35**(10):2319-28. *(impact factor 6.5)*

6. Yasuda H*, **Leelahavanichkul A***, Tsunoda S, Dear JW, Takahashi Y, Ito S, Hu X, Zhou H, Doi K, Childs RW, Klinman DM, Yuen PS and Star RA. Chloroquine and inhibition of Toll-like receptor 9 protect from sepsis-induced acute kidney injury. *Am J Physiol Renal Physiol.* 2008 May; **294**(5):F1050-8. **(* distribution equally)** *(impact factor 4.6-5)*

7. Tiranathanagul K, Katavetin P, Injan P, **Leelahavanichkul A**, Techawathanawanna N, Praditpornsilpa K, Srisawat N, Tungsanga K and Eiam-Ong S. A novel simple hemoglobin dilution technique to measure hemodialysis vascular access flow. *Kidney Int.* 2008 May; **73**(9):1082-6. *(impact factor 6.4)*

8. Doi K, Hu X, Yuen PST, **Leelahavanichkul A**, Yasuda H, Kim SM, Schnermann J, Jonassen T, Frokiar, Nielson S and Star RA. AP 214, an analogue of α-melanocyte-stimulating hormone, ameliorate sepsis induced acute kidney injury and mortality. *Kidney Int.*2008 Jun; **73**(11):1266-74. *(impact factor 6.4)*

9. Zhou H, Cheruvanky A, Hu X, Matsumoto T, Hiramatsu N, Cho ME, Berger A, **Leelahavanichkul A**, Doi K, Chawla LS, Illei GG, Kopp JB, Balow JE, Austin HA, Yuen PS, and Star RA. Urinary exosomal transcription factors, a new class of biomarkers for renal disease. *Kidney Int.* 2008 Sep; **74**(5):613-21. *(impact factor 6.4)*

10. Doi K, **Leelahavanichkul A**, Hu X, Yuen PS and Star RA. Pre-existing renal disease promotes sepsis-induced acute kidney injury and worsens outcome. *Kidney Int.* 2008 Oct; 74(8):1017-25. *(impact factor 6.4)*

11. **Leelahavanichkul A**, Yasuda H, Doi K, Yuen PS, Hu X, Zhou H, Yuen PS and Star RA. Methyl-2-acetamidoacrylate decrease sepsis induced acute kidney injury in CD-1 mice. *Am J Physiol Renal Physiol.* 2008 Dec; **295**(6):F1825-35. *(impact factor 4.6-5)*

12. Nemeth K*, **Leelahavanichkul A** *, Yuen PS, Mayer B, Parmelee B, Doi K, Robey P.G., Leelahavanichkul K, Hu X, Star RA and Mezey E. Bone marrow stromal cells significantly attenuate mouse poly-microbial sepsis via monocyte/macrophage derived IL-10. *Nature Medicine.* 2009 Jan; **15**(1):42-9. **(* distribution equally)** *(impact factor 27.1)*

13. Doi K, Yuen PS, Eisner C, Hu X, **Leelahavanichkul A**, Schnermann J, Star RA. Reduced production of creatinine limits its use as marker of kidney injury in sepsis. *J Am Soc Nephrol.* 2009 Jun; **20**(6):1217-21. *(impact factor 7.1)*

14. Doi K, **Leelahavanichkul A**, Yuen PS, Star RA. Animal models of sepsis and sepsis- induced kidney injury (review). *J Clin Invest* 2009 Oct; **119**(10):2868-78. *(impact factor 16)*

15. Eisner C, Faulhaber-Walter R, Wang Y, **Leelahavanichkul A**, Yuen PS, Mizel D, Star RA, Briggs JP, Levine M, Schnermann J. Major contribution of tubular secretion to creatinine clearance in mice. *Kidney Int.*2010 Mar; 77(6):519-26. *(impact factor 6.4)*

16. **Leelahavanichkul A**, Yan Q, Hu X, Eisner C, Huang Y, Chen R, Mizel D, Zhou H, Wright EC, Kopp JB, Schnermann J, Yuen PS, Star RA. Angiotensin II overcomes strain-dependent resistance of rapid CKD progression in a new remnant kidney mouse model. *Kidney Int* 2010 Dec; 78(11): 1136-53. *(impact factor 6.4)*

17. **Leelahavanichkul A**, Huang Y, Hu X, Zhou H, Tsuji T, Kopp JB., Schnermann J, Yuen ST, Star RA. Chronic kidney disease-induced splenic apoptosis and HMGB1 elevation worsens sepsis and sepsis-induced acute kidney injury *Kidney Int* 2011; Dec; **80**(11):1198-211. *(impact factor 6.4)*

18. Wontanatawatot W, Eiam-Ong S, **Leelahavanichkul A**, Kanjanabuch T. An update on RAAS blockade and peritoneal membrane preservative: the ace of art. *J Med Assoc Thai* 2011 Sep; **94** (Suppl 4):S175-83.

19. Kanjanabuch T, Puttipittayathorn N, **Leelahavanichkul A**, Lieusuwan S, Katavetin P, Mahatanan N, Sriudom K, Chirananthavat T, Thongbor N, Eiam-Ong S. Exfoliated mesothelial cell and CA-125 in automated peritoneal dialysis (APD) and continuous ambulatory peritoneal dialysis (CAPD) patients. *J Med Assoc Thai* 2011 Sep; **94**(Suppl 4):S119-25.

20. Tiranathanagul K, Jearnsujitwimol O, Susantitaphong P, Kijkriengkraikul N, **Leelahavanichkul A**, Srisawat N, Praditpornsilpa K, Eiam-Ong S. Regional citrate anticoagulation reduces polymorphonuclear cell degranulation in critically ill patients treated with continuous venovenous hemofiltration. *Ther Apher Dial.* 2011 Dec; **15**(6):556-64. *(impact factor 1.1)*

21. Baranova IN, Vishnyakova TG, Bocharov AV, **Leelahavanichkul A**, Kurlander R, Chen Z, Souza AC, Yuen PS, Star RA, Csako G, Patterson AP, Eggerman TL. Class B Scavenger Receptor Types I and II and CD36 Mediate Bacterial Recognition and Proinflammatory Signaling Induced by Escherichia coli, Lipopolysaccharide, and Cytosolic Chaperonin 60. *J Immunol.* 2012 Feb 1;**188**(3):1371-80. *(impact factor 5.74)*

22. Zafrani L, Gerotziafas G, Byrnes C, Hu X, Perez J, Lévi C, Placier S, Letavernier E, **Leelahavanichkul A**, Haymann JP, Elalamy I, Miller JL, Star RA, Yuen PS, Baud L. Calpastatin improves survival and limits intravascular coagulopathy in polymicrobial sepsis : Importance of circulating microparticles. *Am J Respir Crit Care Med.* 2012 Apr 1;**185**(7):744-55. *(impact factor 10.19)*

23. **Leelahavanichkul A**, Bocharov AV, Kurlander R, Baranova IN, Vishnyakova TG, Hu X, Doi K, Csako G, Yuen ST, Star RA, Eggerman TL. Class B Scavenger Receptor Types I and II and CD36 Targeting Improves Sepsis Survival and Acute Outcomes in Mice. *J Immunol.* 2012 Mar 15;**188**(6):2749-58. *(impact factor 5.74)*

24. Somparn P, Hirankarn N, **Leelahavanichkul A**, Khovidhunkit W, Thongboonkerd V, Avihingsanon Y. Urinary proteomics revealed prostaglandin H_2D-isomerase, not Zn-α2-glycoprotein, as a biomarker for active lupus nephritis. *J Proteomics.* 2012 Jun 18; 75(11):3240-7 *(impact factor 4.87)*

25. Seujange Y*, **Leelahavanichkul A***, Yisarakun W, Khawsuk W, Meepool A, Phamonleatmongkol P, Saechau W, Onlamul W, Tantiwarattanatikul P, Oonsook W, Eiam-Ong S, Eiam-Ong S. Hibiscus Sabdariffa Linnaeus Aqueous Extracts Attenuate the Progression of Renal Injury in 5/6 Nephrectomy Rats. *Ren Fail.* 2012 Nov 19 **(* distribution equally)** *(impact factor 0.87)*

26. Treamtrakanpon W, Tantivitayakul P, Benjachat T, Somparn P, Kittikowit W, Eiam-ong S, **Leelahavanichkul A**, Hirankarn N and Avihingsanon Y. APRIL, A Proliferation-inducing Ligand, Can be Used to Predict the Prognosis of Lupus Nephritis. *Arthritis Research Ther.* 2012 Nov 21 (*impact factor 4.45*)

27. Zhou H, Hu X, Kajiyama H, Sakairi T, **Leelahavanichkul A**, Tsuji T, Vento S, Frank R, Kopp J, Trachtman H, Yuen ST, and Star RA. Urinary exosomal wilm's tumor-1 as potential biomarker for podocyte injury. *Am J Physiol Renal Physiol.* 2013 Aug15;305(4):F553-9. *(impact factor 3.79)*

28. Chancharoenthana W, Tiranathanagul K, Srisawat N, Susantitaphong P, **Leelahavanichkul A**, Praditpornsilpa K, Tungsanga K, Eiam-Ong S. Enhanced vascular endothelial growth factor and inflammatory cytokine removal with online hemodiafiltration over high-flux hemodialysis in sepsis-related acute kidney injury patients. *Ther Apher Dial.* 2013 Oct;17(5):557-63. *(impact factor 3.79)*

29. **Leelahavanichkul A**, Sauza A, Hsu V, Zhou H, Eisner C, Li L, Hu X, Tsuji T, Kent D, Schnermann J, Yuen ST, Star RA. Serum Cystatin C as the marker of sepsis induce acute kidney injury in CD-1 mice; the usefulness and the limitation. *Am J Physiol Renal Physiol.* 2014 Aug; F939-F948. *(impact factor 3.79)*

30. Chancharoenthana W, Townamchai N, Pongpirul K, Kittiskulnam P,**Leelahavanichkul A**, Avihingsanon Y, Suankratay C, Wattanatorn S, Kittikowit W, Praditpornsilpa K, Tungsanga K, Eiam-Ong S. The Outcomes of Kidney Transplantation in Hepatitis B Surface Antigen (HBsAg)-Negative Recipients Receiving Graft From HBsAg-Positive Donors: A Retrospective, Propensity Score-Matched Study. *Am J Transplant.* 2014 Dec;14 (12):2814-20. *(impact factor 5.68)*

31. Huebner AR, Somparn P, Benjachat T, **Leelahavanichkul A**, Avihingsanon Y, Fenton RA, Pisitkun T. Exosomes in urine biomarker discovery. *Adv Exp Med Biol.* 2015;845:43-58. *(impact factor 3.79)*

32. **Leelahavanichkul A**, Somparn P, Panich T, Chancharoenthana W, Wongphom J, Pisitkun T, Hirankarn N, Eiam-Ong S. The levels of serum microRNA-122 in acute liver injury induced by kidney injury and sepsis in CD-1 mouse models. *Hepatol Res.* 2015 Dec; 45 (13): 1341-52. *(impact factor 2.28)*

33. Worasilchai N*, **Leelahavanichkul A***, Kanjanabuch T, Thongbor N, Lorvinitnun P, Sukhontasing K, Finkelman M, Chindamporn A. (1→3)-β-D-glucan and galactomannan testing for the diagnosis of fungal peritonitis in peritoneal dialysis patients, a pilot study. *Med Mycol.* 2015 May 1;53(4):338-46. **(* distribution equally)** *(impact factor 2.34)*

34. Supawanpen C, Nouanthong P, Jaruvongvanich V, Pongpirul K, Amornimit-Pongpirul W, **Leelahavanichkul A**, Kanjanabuch T. Urinary podocalyxin, the novel biomarker for detection of renal change in obesity. *J Nephrol.* 2015 Feb; 29 (1): 37-44 *(impact factor 1.45)*

35. **Leelahavanichkul A**, Somparn P, Bootprapan T, Tu H, Tangtanatakul P, Nuengjumnong R, Worasilchai N, Tiranathanagul K, Eiam-Ong S, Levine M, Chinampon A, Srisawat N. High-dose ascorbate with low-dose amphotericin B attenuates severity of disease in a model of re-appearance of candidemia during sepsis in the mouse. *Am J Physiol Regul Integr Comp Physiol.* 2015 Aug 1; 309(3): R223-34 *(impact factor 3.66)*

36. Benjachat T, Tongyoo P, Tantivitayakul P, Somparn P, Hirankarn N, Prom-On S,Pisitkun P, **Leelahavanichkul A**, Avihingsanon Y, Townamchai N. Biomarkers for Refractory Lupus Nephritis: A Microarray Study of Kidney Tissue. *Int J Mol Sci.*2015 Jun 23;16 (6):14276-90. *(impact factor 2.98)*

37. Tantivitayakul P, Benjachat T, Somparn P, **Leelahavanichkul A**, Kittikovit V, Hirankarn N, Pisitkun T, Avihingsanon Y. Elevated expressions of myeloid-related proteins-8 and -14 are danger biomarkers for lupus nephritis. *Lupus.* 2015 Jul 29. *(impact factor 2.6)*

38. **Leelahavanichkul A**, Pongpirul K, Thongbor N, Worasilchai N, Petphuak K, Thongsawang B, Towannang P, Lorvinitnun P, Sukhontasing K, Katavetin P, Praditpornsilpa K, Eiam-Ong S, Chindamporn A, Kanjanabuch T. (1→3)-β-D-glucan and galactomannan for a differentiation of chemical "black particles" and fungal particles inside peritoneal dialysis tubing. *Perit Dial Int.* 2016: Jul-Aug;36(4):402-9. *(impact factor 2.2)*

39. Townamchai N, Chancharoenthana W, Vadcharavivad S, Chariyavilaskul P, Pongpirul K, **Leelahavanichkul A**, Watanatorn S, Avihingsanon Y, Praditpornsilpa K, Srisawat N. A Simple Novel Technique to Estimate Tacrolimus Dosages During the Early Post Kidney Transplantation Period. *Transplant Proc.* 2015 Oct; 47(8):2433-8. *(impact factor 0.98)*

40. **Leelahavanichkul A**, Somparn P, Issara-Amphorn J, Eiam-ong S, Avihingsanon Y, Hirankarn N, Srisawat N. Advantage of serum neutrophil gelatinase associated lipocalin in sepsis, impact of bilateral nephrectomy and bilateral ureter obstruction mouse models. *Shock.* 2016 May; 45 (5): 570-6 *(impact factor 3.2)*

41. Chancharoenthana W, Townamchai N, **Leelahavanichkul A**, Wattanatorn S, Kanjanabuch T, Avihingsanon Y, Praditpornsilpa K, Eiam-Ong S. Rituximab for Recurrent IgA Nephropathy in Kidney Transplantation: A Report of 3 Cases and Proposed Mechanisms. *Nephrology* (Carlton). 2016 Jan 12. *(impact factor 2.083)*

42. Kupatawintu P, Tatawatorn A, Premasathian N, Avihingsanon Y, **Leelahavanichkul A**, Hirankarn N. Association between flow cytometric crossmatching and graft survival in Thai cadaveric-donor kidney transplantation. *Asian Pac J Allergy Immunol.* 2016 Mar;34(1):86-93. *(impact factor 0.97)*

43. **Leelahavanichkul A**, Worasilchai N, Wannalerdsakun S, Jutivorakool K, Somparn P, Issara-Amphorn J, Tachaboon S, Srisawat N, Finkelman M, Chindamporn A. Gastrointestinal Leakage Detected by Serum (1→3)-β-D-Glucan in Mouse Models and a Pilot Study in Patients with Sepsis. *Shock.* 2016 Nov;46(5):506-518. *(impact factor 3.2)*

44. Kritmetapak K, Peerapornratana S, Srisawat N, Somlaw N, Lakananurak N, Dissayabutra T, Phonork C, **Leelahavanichkul A**, Tiranathanagul K, Susantithapon P, Loaveeravat P, Suwachittanont N, Wirotwan TO, Praditpornsilpa K, Tungsanga K, Eiam-Ong S, Kittiskulnam P. The Impact of Macro-and Micronutrients on Predicting Outcomes of Critically Ill Patients Requiring Continuous Renal Replacement Therapy. *PLoS One.* 2016 Jun 28;11(6):e0156634. *(impact factor 3.2)*

45. **Leelahavanichkul A**, Panpetch W, Worasilchai N, Somparn P, Chancharoenthana W, Nilgate S, Finkelman M, Chindamporn A, Tumwasorn S. Evaluation of gastrointestinal leakage using serum (1→3)-β-D-glucan in a Clostridium difficile murine model. *FEMS Microbiol Lett.* 2016 Aug 28 *(impact factor 2.0)*

46. Ondee T, Surawut S, Taratummarat S, Hirankan N, Palaga T, Pisitkun P, Pisitkun T, **Leelahavanichkul A***. Fc gamma receptor IIb deficient mice: A lupus model with increased endotoxin tolerance-related sepsis susceptibility. *Shock.* 2016 Jun;47(6):743-752. *(impact factor 3.2))(* correspondence author)*

47. Surawut S, Ondee T, Taratummarat S, Palaga T, Pisitkun P, Chindamporn A, **Leelahavanichkul A***. The role of macrophages in the susceptibility of Fc gamma receptor IIb deficient mice to *Cryptococcus neoformans. Sci Report. 2016* Jan 11;7:40006. *(impact factor 5.5)(* correspondence author)*

48. Rattanasinganchan P, Sopitthummakhun K, Doi K, Hu X, Payne MD, Pisitkun T, **Leelahavanichkul A***. Folic acid-induced rat kidney fibrosis: preliminary evaluation as a potential model for identification of fibrosis biomarkers from urinary exosomes. *Asian BioMed* 2016 (Accepted) *(impact factor 0.134))(* correspondence author)*

49. **Leelahavanichkul A**, Chancharoenthana W, Wongphom J, Eiam-Ong S, Srisawat N. Mouse chronic renal ischemic reperfusion injury model of chronic tubulointerstitial kidney disease, suitable model for urinary exosome experiments. *Asian BioMed* 2016 (Accepted) *(impact factor 0.134)*

50. Panich T, Chancharoenthana W, Somparn P, Issara-Amphorn J, Hirankarn N, **Leelahavanichkul A***. Urinary Exosomal Activating Transcriptional Factor 3 as the Early Diagnostic Biomarker for Sepsis-Induced Acute Kidney Injury. *BMC Nephrology.* 2017 Jan 7;18(1):10. *(impact factor 2.2))(* correspondence author)*

51. Cannizzaro L, Rossoni G, Savi F, Altomare A, Marinello C, Saethang T, Carini M, Payne MD, Pisitkun T , Aldini G, **Leeelahavanichkul A***. Regulatory landscape of AGE-RAGE-oxidative stress axis and its modulation by PPARγ activation in high fructose diet-induced metabolic syndrome. *Nutrition & Metabolism.* 2016 2017 Jan 13;14:5. *(impact factor 3.2)(* correspondence author)*

52. Panpetch W, Somboonna N, Bulan DE, Issara-Amphorn J, Worasilchai N, Finkelman M, Chindamporn A, Palaga T, Tumwasorn S, **Leelahavanichkul A***. Gastrointestinal Colonization of Candida Albicans Increases Serum (1→3)-β-D-Glucan, without Candidemia, and Worsens Cecal

Ligation and Puncture Sepsis in Murine Model. *Shock.* 2018 Jan;49(1):62-70. *(impact factor 3.2))(* correspondence author)*

53. Panpetch W, Somboonna N, Bulan DE, Issara-Amphorn J, Finkelman M, Worasilchai N, Chindamporn A, Palaga T, Tumwasorn S, **Leelahavanichkul A.** Oral administration of live- or heat-killed Candida albicans worsened cecal ligation and puncture sepsis in a murine model possibly due to an increased serum (1→3)-β-D-glucan. *PLoS One.* 2017 Jul 27;12(7):e0181439. *(impact factor 2.8))(* correspondence author)*

54. Panpetch W, Chancharoenthana W, Bootdee K, Nilgate S, Finkelman M, Tumwasorn S, **Leelahavanichkul A.** Lactobacillus rhamnosus L34 attenuates gut translocation induced bacterial sepsis in murine models of leaky gut. *Infect and Immun.* 2017 Dec 19;86(1). pii: e00700-17. *(impact factor 3.731) (* correspondence author)*

55. Satirapoj B, Kitiyakara C, **Leelahavanichkul A,** Avihingsanon Y, Supasyndh O. Urine neutrophil gelatinase-associated lipocalin to predict renal response after induction therapy in active lupus nephritis. *BMC Nephrol.* 2017 Aug 4;18(1):263. *(impact factor 2.289)*

56. Tangtanatakul P, Thammasate B, Jacquet A, Reantragoon R, Pisitkun T. Avihingsanon Y, **Leelahavanichkul A,** Hirankarn N. Transcriptomic profiling in human mesangial cells using patient-derived lupus autoantibodies identified miR-10a as a potential regulator of IL8. *Sci Rep.* 2017 Nov 6;7(1):14517. *(impact factor 4.259)*

57. Chancharoenthana W, **Leelahavanichkul A*,** Taratummarat S, Wongphom J, Tiranathanagul K, Eiam-Ong S. Cilostazol attenuates intimal hyperplasia in a mouse model of chronic kidney disease. *PLoS One.* 2017 Dec 5;12(12):e0187872. *(impact factor 2.8) (* correspondence author)*

58. Pongpirul W, Chancharoenthana W, Pongpirul K, **Leelahavanichkul A,** Kittikowit W, Jutivorakool K, Nonthasoot B, Avihingsanon Y, Eiam-Ong S, Praditpornsilpa K, Townamchai N. B-cell activating factor, a predictor of antibody mediated rejection in kidney transplantation recipients. *Nephrology* (Carlton). 2018 Feb;23(2):169-174. *(impact factor 2.178)*

59. Kunanopparat A, Issara-Amphorn J, **Leelahavanichkul A,** Sanpavat A, Patumraj S, Tangkijvanich P, Palaga T, Hirankarn N. Delta-like ligand 4 in hepatocellular carcinoma intrinsically promotes tumour growth and suppresses hepatitis B virus replication. *World J Gastroenterol.* 2018 Sep 14;24(34):3861-3870. *(impact factor 3.365)*

60. Worasilchai N, **Leelahavanichkul A,** Permpalung N, Kuityo C, Phaisanchatchawan T, Palaga T, Reantragoon R, Chindamporn A. Antigen host response differences between the animal-type strain and human-clinical Pythium insidiosum isolates used for serological diagnosis in Thailand. *Med Mycol.* 2018 Aug 24. *(impact factor 2.687)*

61. Taratummarat S, Sangphech N, Vu CTB, Palaga T, Ondee T, Surawut S, Sereemaspun A, Ritprajak P, **Leelahavanichkul A*.** Gold nanoparticles attenuates bacterial sepsis in cecal ligation and puncture mouse model through the induction of M2 macrophage polarization. *BMC Microbiol.* 2018 Aug 17;18(1):85. *(impact factor 3.066)*

62. Saiworn W, Thim-Uam A, Visitchanakun P, Atjanasuppat K, Chantaraaumporn J, Mokdara J, Chungchatupornchai S, Pisitkun P, **Leelahavanichkul A,** Poolthong S, Baron R, Lotinun S. Cortical Bone Loss in a Spontaneous Murine Model of Systemic Lupus Erythematosus. *Calcif Tissue Int.* 2018 Dec;103(6):686-697. *(impact factor 3.275)*

63. Issara-Amphorn J, Surawut S, Worasilchai N, Thim-uam A, Finkelman M, Chindamporn A, Palaga T, Hirankarn N, Pisitkun P, **Leelahavanichkul A*.** Synergy of endotoxin and (1→3)-β-D-glucan, from gut translocation, worsens sepsis severity in a lupus model of Fc gamma receptor IIb deficient mice. *Journal of Innate Immunity,* 2018;10 (3):189-201. *(impact factor 4.1) (* correspondence author)*

64. Worasilchai N, Permpalung N, Chongsathidkiet P, **Leelahavanichkul A,** Mendoza AL, Palaga T, Reantragoon R, Finkelman M, Sutcharitchan P, Chindamporn A. Monitoring Anti-Pythium

insidiosum IgG Antibodies and (1->3)-β-D-Glucan in Vascular Pythiosis. *J Clin Microbiol.* 2018 May 30. *(impact factor 4.232)*

65. Chawalitpong S, Chokchaisiri R, Suksamrarn A, Katayama S, Mitani T, Nakamura S, Athamneh AA, Ritprajak P, **Leelahavanichkul A**, Aeimlapa R, Charoenphandhu N, Palaga T. Cyperenoic acid suppresses osteoclast differentiation and delays bone loss in a senile osteoporosis mouse model by inhibiting non-canonical NF-κB pathway. *Sci Rep.* 2018 Apr 4;8(1):5625. *(impact factor 4.259)*

66. Surawut S, Panpetch W, Makjaroen J, Tangtanatakul P, Thim-Uam A, Wongphoom J, Tumwasorn S, **Leelahavanichkul A***. Helicobacter pylori Infection Increased Anti-dsDNA and Enhanced Lupus Severity in Symptomatic FcγRIIb-Deficient Lupus Mice. *Front Microbiol.* 2018 Jul 6; 9:1488. *(impact factor 4.3)(* correspondence author)*

67. Wirapakorn C, Klaewsongkram J, Singkham-In U, Taratummarat S, Surawut S, Visitchanakun P, Chatsuwan T, **Leelahavanichkul A***. The cooperation of pharmacologic-dose ascorbate with ceftriaxone against Staphylococcus aureus through bactericidal synergy and enhanced macrophage killing activity. *Asian Pac J Allergy Immunol.* 2018 Aug 13. *(impact factor 1.01) (*correspondence author)*

68. Surawut S, Makjaroen J, Thim-Uam A, Wongphoom J, Palaga T, Pisitkun P, Chindamporn A, **Leelahavanichkul A***. Increased susceptibility against Cryptococcus neoformans of lupus mouse models (pristane-induction and FcGRIIb deficiency) is associated with activated macrophage, regardless of genetic background. *J Microbiol.* 2018 Nov 19. *(impact factor 2.319) (*correspondence author)*

69. Chancharoenthana W, **Leelahavanichkul A***, Wattanatorn S, Avihingsanon Y, Praditpornsilpa K, Eiam-Ong S, Townamchai N. Alteration of urinary neutrophil gelatinase-associated lipocalin as a predictor of tacrolimus-induced chronic renal allograft fibrosis in tacrolimus dose adjustments following kidney transplantation. *PLoS One.* 2018 Dec 21;13(12):e0209708.*(impact factor 2.766) (*correspondence author)*

70. Panpetch W, Somboonna N, Palasuk M, Hiengrach P, Finkelman M, Tumwasorn S, **Leelahavanichkul A***. Oral Candida administration in a Clostridium difficile mouse model worsens disease severity but is attenuated by Bifidobacterium. *PLoS One.* 2019 Jan 15;14 (1):e0210798. *(impact factor 2.766) (*correspondence author)*

71. Hiengrach P, Panpetch W, Worasilchai N, Chindamporn A, Tumwasorn S, Jaroonwitchawan T, Somboonna N, Wilantho A, Chathanathon P, **Leelahavanichkul A***. Administration of Candida Albicans to Dextran Sulfate Solution Treated Mice Causes Intestinal Dysbiosis, Emergence and Dissemination of Intestinal *Pseudomonas Aeruginosa* and Lethal Sepsis. *Shock.* 2019 Feb 28. *(impact factor 3.011) (*correspondence author)*

72. Chancharoenthana W, **Leelahavanichkul A**, Udomkarnjananun S, Wattanatorn S, Avihingsanon Y, Praditpornsilpa K, Tungsanga K, Eiam-Ong S, Townamchai N. Durability of Antibody Response Against the Hepatitis B Virus in Kidney Transplant Recipients: A Proposed Immunization Guideline From a 3-Year Follow-up Clinical Study. *Open Forum Infect Dis.* 2018 Dec 16;6(1):ofy342. *(impact factor 3.24)*

73. Amornphimoltham P, Yuen PST, Star RA, **Leelahavanichkul A***. Gut Leakage of Fungal-Derived Inflammatory Mediators: Part of a Gut-Liver-Kidney Axis in Bacterial Sepsis. *Dig Dis Sci.* 2019 Sep;64(9):2416-2428. *(impact factor 2.613) (*correspondence author)*

74. Ondee T, Jaroonwitchawan T, Pisitkun T, Gillen J, Nita-Lazar A, **Leelahavanichkul A***, Somparn P. Decreased Protein Kinase C-β Type II Associated with the Prominent Endotoxin Exhaustion in the Macrophage of FcGRIIb-/- Lupus Prone Mice is Revealed by Phosphoproteomic Analysis. *Int J Mol Sci.* 2019 Mar18; 20 (6). *(impact factor 3.687) (*correspondence author)*

75. Sukkummee W, Jittisak P, Wonganan P, Wittayalertpanya S, Chariyavilaskul P, **Leelahavanichkul A***. The prominent impairment of liver/intestinal cytochrome P450 and intestinal drug transporters in sepsis-induced acute kidney injury over acute and chronic renal

ischemia, a mouse model comparison. *Ren Fail.* 2019 Nov;41(1):314-325. *(impact factor 0.75) (*correspondence author)*

76. Pichaiwong W, Homsuwan W, **Leelahavanichkul A***. The prevalence of normoalbuminuria and renal impairment in type 2 diabetes mellitus. *Clin Nephrol.* 2019 Jun 14 *(impact factor 1.079) (*correspondence author)*
77. Srisawat N, Kulvichit W, Mahamitra N, Hurst C, Praditpornsilpa K, Lumlertgul N, Chuasuwan A, Trongtrakul K, Tasnarong A, Champunot R, Bhurayanontachai R, Kongwibulwut M, Chatkaew P, Oranrigsupak P, Sukmark T, Panaput T, Laohacharoenyot N, Surasit K, Keobounma T, Khositrangsikun K, Suwattanasilpa U, Pattharanitima P, Santithisadeekorn P, Wanitchanont A, Peerapornrattana S, Loaveeravat P, **Leelahavanichkul A**, Tiranathanagul K, Kerr SJ, Tungsanga K, Eiam-Ong S, Sitprija V, Kellum JA. The epidemiology and characteristics of acute kidney injury in the Southeast Asia intensive care unit: a prospective multicentre study. *Nephrol Dial Transplant.* 2019 May 10
78. Chancharoenthana W, **Leelahavanichkul A***. Acute kidney injury spectrum in patients with chronic liver disease: Where do we stand? *World J Gastroenterol.* 2019 Jul 28; 25(28):3684-3703. doi: 10.3748/wjg.v25.i28.3684. Review *(impact factor 3.365) (*correspondence author)*
79. Udomkarnjananun S, Townamchai N, Wattanatorn S, On-Yim L, Vanichanan J, Jutivorakool K, Avihingsanon Y, Praditpornsilpa K, Eiam-Ong S, **Leelahavanichkul A***. Maximizing anti-HBs seroresponsiveness in kidney transplant waitlist patients:A tertiary-center perspective *Clin Nephrol.* 2019 Jul 26 *(impact factor 1.079) (*correspondence author)*
80. Vu CTB, Thammahong A, Yagita H, Azuma M, Hirankarn N, Ritprajak P, **Leelahavanichkul A***. Blockade of PD-1 Attenuated Post-Sepsis Aspergillosis via The Activation Of IFN-γ and The Dampening of IL-10. *Shock.* 2019 Jul 11. *(impact factor 3.011) (*correspondence author)*
81. Panpetch W, Hiengrach P, Nilgate S, Tumwasorn S, Somboonna N, Wilantho A, Chatthanathon P, Prueksapanich P, **Leelahavanichkul A***. Additional Candida albicans administration enhances the severity of dextran sulfate solution induced colitis mouse model through leaky gut-enhanced systemic inflammation and gut-dysbiosis but attenuated by Lactobacillus rhamnosus L34. *Gut Microbes.* 2019 Sep 18:1-16. *(impact factor 10.211) (*correspondence author)*
82. Ondee T, Gillen J, Visitchanakun P, Somparn P, Issara-Amphorn J, Dang Phi C, Chancharoenthana W, Gurusamy D, Nita-Lazar A, **Leelahavanichkul A***. Lipocalin-2 (Lcn-2) Attenuates Polymicrobial Sepsis with LPS Preconditioning (LPS Tolerance) in FcGRIIb Deficient Lupus Mice. Cells. 2019 Sep 11;8(9). *(impact factor 5.062) (*correspondence author)*
83. Liu X, Oungeun P, Banlunara W, **Leelahavanichkul A**, Wanichwecharungruang S. Natural Thermoresponsive Rice Granules as Biocompatible Drug Carriers. *ACS Omega.* 2019 May 1;4(5):7911-7918.
84. Visitchanakun P, Saiworn W, Jongwattanapisan P, **Leelahavanichkul A**, Pisitkun P, Lotinun S. Lupus-like Disease in FcγRIIB(-/-) Mice Induces Osteopenia. *Sci Rep.* 2019 Nov 22;9(1):17342. *(impact factor 4.259)*
85. Visitchanakun P, Tangtanatakul P, Trithiphen O, Soonthonchai W, Wongphoom J, Tachaboon S, Srisawat N, **Leelahavanichkul A***. Plasma miR-370-3p As a Biomarker of Sepsis-Associated Encephalopathy, The Transcriptomic Profiling Analysis of Microrna-Arrays From Mouse Brains. *Shock.* 2019 Nov 15. *(impact factor 3.011) (*correspondence author)*
86. Vu CTB, Thammahong A, **Leelahavanichkul A***, Ritprajak P. Alteration of macrophage immune phenotype in a murine sepsis model is associated with susceptibility to secondary fungal infection. *Asian Pac J Allergy Immunol.* 2019 Oct 6. *(impact factor 1.01) (*correspondence author)*
87. Chamroensakchai T, Manuprasert W, **Leelahavanichkul A**, Takkavatakarn K, Thongbor N, Jaroenpattrawut B, Kanjanabuch T. Rhodococcus induced false-positive galactomannan (GM), a biomarker of fungal presentation, in patients with peritoneal dialysis: case reports. *BMC Nephrol.* 2019 Dec 2;20(1):445. *(impact factor 2.395)*
88. Losuwannarak N, Maiuthed A, Kitkumthorn N, **Leelahavanichkul A**, Roytrakul S, Chanvorachote P. Gigantol Targets Cancer Stem Cells and Destabilizes Tumors via the Suppression of the PI3K/AKT and JAK/STAT Pathways in Ectopic Lung Cancer Xenografts. *Cancers* (Basel). 2019 Dec 17;11(12). *(impact factor 6.102)*

89. Chancharoenthana W, Wattanatorn S, Vadcharavivad S, Eiam-Ong S, **Leelahavanichkul A***. Agreement and Precision Analyses of Various Estimated Glomerular Filtration Rate Formulae in Cancer Patients. *Sci Rep.* 2019 Dec18;9(1):19356. *(impact factor 4.259) (*correspondence author)*

90. Manuprasert W, **Leelahavanichkul A***, Kanjanabuch S, Ruangvejvorachai P, Manotham K, Sanguanrungsirikul S, Kanjanabuch T. Intermittent hypoxia in rat enhancing peritoneal membrane thickening through HIF-1α-induced cytokines in peritoneum. *Asian Pac J Allergy Immunol.* 2019 Dec 14. *(impact factor 1.01) (*correspondence author)*

91. Thim-Uam A, Surawut S, Issara-Amphorn J, Jaroonwitchawan T, Hiengrach P, Chatthanathon P, Wilantho A, Somboonna N, Palaga T, Pisitkun P, **Leelahavanichkul A***. Leaky-gut enhanced lupus progression in the Fc gamma receptor-IIb deficient and pristane-induced mouse models of lupus. *Sci Rep.* 2020 Jan 21;10(1):777. *(impact factor 4.261) (*correspondence author)*

92. Kanjanabuch T, Puapatanakul P, Saejew T, Pavatung P, Manuprasert W, **Leelahavanichkul A**, Chatsuwan T, Udomsantisuk N. The culture from peritoneal dialysis catheter enhances yield of microorganism identification in peritoneal dialysis-related peritonitis. *Perit Dial Int.* 2020 Jan;40(1):93-95 *(impact factor 1.93)*

93. Ruenjaiman V, Butta P, Leu YW, Pongpanich M, **Leelahavanichkul A**, Kueanjinda P, Palaga T. Profile of Histone H3 Lysine 4 Trimethylation and the Effect of Lipopolysaccharide/Immune Complex-Activated Macrophages on Endotoxemia. *Front Immunol.* 2020 Jan 10; 10: 2956. *(impact factor 4.7)*

94. Lotinun S, Atjanasuppat K, Limsuvech J, **Leelahavanichkul A**, Svasti S, Krishnamra N. Nephrectomy Does not Exacerbate Cancellous Bone loss in Thalassemic Mice. *Sci Rep.* 2020 May 8;10(1):7786. *(impact factor 4.7)*

95. Visitchanakun P, Saisorn W, Wongphoom J, Chatthanathon P, Somboonna N, Svasti S, Fucharoen S, **Leelahavanichkul A***. Gut leakage enhances sepsis susceptibility in iron-overloaded β-thalassemia mice through macrophage hyperinflammatory responses. *Am J Physiol Gastrointest Liver Physiol.* 2020 May 1; 318(5): G966-G979. *(impact factor 2.36) (*correspondence author)*

96. Lotinun S, Atjanasuppat K, Limsuvech J, **Leelahavanichkul A**, Svasti S, Krishnamra N. Nephrectomy Does not Exacerbate Cancellous Bone loss in Thalassemic Mice. *Sci Rep.* 2020 May 8;10(1):7786.

97. Chancharoenthana W, **Leelahavanichkul A**. Kidney Transplantation from HBsAg+ Living Donors to HBsAg- Recipients: Benefits and Risks. *Clin Infect Dis.* 2020 Jun 3

98. Saejong S, Townamchai N, Somparn P, Tangtanatakul P, Ondee T, Hirankarn N, **Leelahavanichkul A***. MicroRNA-21 in plasma exosome, but not from whole plasma, as a biomarker for the severe interstitial fibrosis and tubular atrophy (IF/TA) in post-renal transplantation. *Asian Pac J Allergy Immunol.* 2020 Jun 21. *(impact factor 1.747) (*correspondence author)*

99. Jaroonwitchawan T, Visitchanakun P, Dang PC, Ritprajak P, Palaga T, **Leelahavanichkul A***. Dysregulation of Lipid Metabolism in Macrophages Is Responsible for Severe Endotoxin Tolerance in FcgRIIB-Deficient Lupus Mice. *Front Immunol.* 2020 Jun 9;11:959. *(impact factor 5.085) (*correspondence author)*

100. Sae-Khow K, Tachaboon S, Wright HL, Edwards SW, Srisawat N, **Leelahavanichkul A**, Chiewchengchol D. Defective Neutrophil Function in Patients with Sepsis Is Mostly Restored by ex vivo Ascorbate Incubation. *J Inflamm Res.* 2020 Jun 25;13:263-274.

101. Dang CP, **Leelahavanichkul A***. Over-expression of miR-223 induces M2 macrophage through glycolysis alteration and attenuates LPS-induced sepsis mouse model, the cell-based therapy in sepsis. *PLoS One.* 2020 Jul 13;15(7):e0236038. *(impact factor 2.74) (*correspondence author)*

102. Issara-Amphorn J, Somboonna N, Pisitkun P, Hirankarn N, **Leelahavanichkul A***. Syk inhibitor attenuates inflammation in lupus mice from FcgRIIb deficiency but not in pristane induction: the influence of lupus pathogenesis on the therapeutic effect. *Lupus*. 2020 Sep;29(10):1248-1262. *(impact factor 2.6) (*correspondence author)*

103. Issara-Amphorn J, Chancharoenthana W, Visitchanakun P, **Leelahavanichkul A***. Syk Inhibitor Attenuates Polymicrobial Sepsis in FcgRIIb-Deficient Lupus Mouse Model, the Impact of Lupus Characteristics in Sepsis. *J Innate Immun*. 2020 Sep 14:1-19. *(impact factor 4.429) (*correspondence author)*

104. Boonyasuppayakorn S, Saelee T, Visitchanakun P, **Leelahavanichkul A**, Hengphasatporn K, Shigeta Y, Huynh TNT, Chu JJH, Rungrotmongkol T, Chavasiri W. Dibromopinocembrin and Dibromopinostrobin Are Potential Anti-Dengue Leads with Mild Animal Toxicity. *Molecules*. 2020 Sep 11;25(18): E4154.

105. Sae-Khow K, Charoensappakit A, Visitchanakun P, Saisorn W, Svasti S, Fucharoen S, **Leelahavanichkul A***. Pathogen-Associated Molecules from Gut Translocation Enhance Severity of Cecal Ligation and Puncture Sepsis in Iron-Overload β-Thalassemia Mice. *J Inflamm Res*. 2020 Oct. *(impact factor 4.96) (*correspondence author)*

106. Thim-Uam A, Prabakaran T, Tansakul M, Makjaroen J, Wongkongkathep P, Chantaravisoot N, Saethang T, **Leelahavanichkul A**, Benjachat T, Paludan S, Pisitkun T, Pisitkun P. STING Mediates Lupus via the Activation of Conventional Dendritic Cell Maturation and Plasmacytoid Dendritic Cell Differentiation. *iScience*. 2020 Sep 4;23(9):101530. *(impact factor 4.447)*

107. Panpetch W, Sawaswong V, Chanchaem P, Ondee T, Dang CP, Payungporn S, **Leelahavanichkul A***. Candida Administration Worsens Cecal Ligation and Puncture-Induced Sepsis in Obese Mice Through Gut Dysbiosis Enhanced Systemic Inflammation, Impact of Pathogen-Associated Molecules From Gut Translocation and Saturated Fatty Acid. *Front Immunol*. 2020 Sep 25;11:561652. *(impact factor 5.085) (*correspondence author)*

108. Sirivongrangson P, Kulvichit W, Payungporn S, Pisitkun T, Chindamporn A, Peerapornratana S, Pisitkun P, Chitcharoen S, Sawaswong V, Worasilchai N, Kampunya S, Putcharoen O, Thawitsri T, Leelayuwatanakul N, Kongpolprom N, Phoophiboon V, Sriprasart T, Samransamruajkit R, Tungsanga S, Tiankanon K, Lumlertgul N, **Leelahavanichkul A**, Sriphojanart T, Tantawichien T, Thisyakorn U, Chirathaworn C, Praditpornsilpa K, Tungsanga K, Eiam-Ong S, Sitprija V, Kellum JA, Srisawat N. Endotoxemia and circulating bacteriome in severe COVID-19 patients. *Intensive Care Med Exp*. 2020 Dec 7;8(1):72.

109. Chancharoenthana W, **Leelahavanichkul A**, Chinpraditsuk S, Pongpirul K, Kamolratanakul S, Phumratanaprapin W, Wilairatana P, Pitisuttithum P. Social restriction versus herd immunity policies in the early phase of the SARS-CoV-2 pandemic: A mathematical modelling study. *Asian Pac J Allergy Immunol*. 2021 Jan 2.

110. Phuengmaung P, Somparn P, Panpetch W, Singkham-In U, Wannigama DL, Chatsuwan T, **Leelahavanichkul A***. Coexistence of Pseudomonas aeruginosa With Candida albicans Enhances Biofilm Thickness Through Alginate-Related Extracellular Matrix but Is Attenuated by N-acetyl-l-cysteine. *Front Cell Infect Microbiol*. 2020 Nov 24;10:594336. *(impact factor 4.3) (*correspondence author)*

111. Panpetch W, Kullapanich C, Dang CP, Visitchanakun P, Saisorn W, Wongphoom J, Wannigama DL, Thim-Uam A, Patarakul K, Somboonna N, Tumwasorn S, **Leelahavanichkul A***. Candida Administration Worsens Uremia-Induced Gut Leakage in Bilateral Nephrectomy Mice, an Impact of Gut Fungi and Organismal Molecules in Uremia. *mSystems*. 2021 Jan 12;6(1):e01187-20. *(impact factor 6.4) (*correspondence author)*

112. Choopara I, Suea-Ngam A, Teethaisong Y, Howes PD, Schmelcher M, **Leelahavanichkul A**, Thunyaharn S, Wongsawaeng D, deMello AJ, Dean D, Somboonna N. Fluorometric Paper-Based, Loop-Mediated Isothermal Amplification Devices for Quantitative Point-of-Care Detection of

Methicillin-Resistant Staphylococcus aureus (MRSA). *ACS Sens.* 2021 Jan 13. *(impact factor 6.88)*

113. Gillen J, Ondee T, Gurusamy D, Issara-Amphorn J, Manes NP, Yoon SH, **Leelahavanichkul A**, Nita-Lazar A. LPS Tolerance Inhibits Cellular Respiration and Induces Global Changes in the Macrophage Secretome. *Biomolecules.* 2021 Jan 27;11(2):164. *(impact factor 4.65)*

114. Dinh TTH, Tummamunkong P, Padungros P, Ponpakdee P, Boonprakong L, Saisorn W, **Leelahavanichkul A**, Kueanjinda P, Ritprajak P. Interaction Between Dendritic Cells and Candida krusei β-Glucan Partially Depends on Dectin-1 and It Promotes High IL-10 Production by T Cells. Front Cell Infect Microbiol. 2021 Jan 22;10:566661. *(impact factor 4.65)*

115. Bhunyakarnjanarat T, Udompornpitak K, Saisorn W, Chantraprapawat B, Visitchanakun P, Dang CP, Issara-Amphorn J, **Leelahavanichkul A***. Prominent Indomethacin-Induced Enteropathy in Fcgriib Defi-cient lupus Mice: An Impact of Macrophage Responses and Immune Deposition in Gut. *Int J Mol Sci.* 2021 Jan 29;22(3):1377. *(impact factor 4.556) (*correspondence author)*

116. Ondee T, Pongpirul K, Visitchanakun P, Saisorn W, Kanacharoen S, Wongsaroj L, Kullapanich C, Ngamwongsatit N, Settachaimongkon S, Somboonna N, **Leelahavanichkul A*.** Lactobacillus acidophilus LA5 improves saturated fat-induced obesity mouse model through the enhanced intestinal Akkermansia muciniphila. *Sci Rep.* 2021 Mar 18;11(1):6367. *(impact factor 3.998) (*correspondence author)*

117. Sakunrangsit N, Metheepakornchai P, Kumpunya S, Greenblatt MB, **Leelahavanichkul A**, Pisitkun P, Lotinun S. Etanercept prevents TNF-α mediated mandibular bone loss in FcγRIIb-/- lupus model. PLoS One. 2021 Apr 16;16(4):e0250215. *(impact factor 2.740)*

118. Udompornpitak K, Bhunyakarnjanarat T, Charoensappakit A, Dang CP, Saisorn W, **Leelahavanichkul A***. Lipopolysaccharide-Enhanced Responses against Aryl Hydrocarbon Receptor in FcgRIIb-Deficient Macrophages, a Profound Impact of an Environmental Toxin on a Lupus-Like Mouse Model. *Int J Mol Sci.* 2021 Apr 18;22(8):4199. *(impact factor 4.556) (*correspondence author)*

119. Wannigama DL, Amarasiri M, Hurst C, Phattharapornjaroen P, Abe S, Hongsing P, Rad SMAH, Pearson L, Saethang T, Luk-In S, Kueakulpattana N, Storer RJ, Ounjai P, Jacquet A, **Leelahavanichkul A**, Chatsuwan T. Tracking COVID-19 with wastewater to understand asymptomatic transmission. *Int J Infect Dis.* 2021 May 11: S1201-9712(21)00406-9. *(impact factor 3.538)*

120. Dang CP, Issara-Amphorn J, Charoensappakit A, Udompornpitak K, Bhunyakarnjanarat T, Saisorn W, Sae-Khow K, **Leelahavanichkul A***. BAM15, a Mitochondrial Uncoupling Agent, Attenuates Inflammation in the LPS Injection Mouse Model: An Adjunctive Anti-Inflammation on Macrophages and Hepatocytes. *J Innate Immun.* 2021 Jun 1:1-17. *(impact factor 7.349) (*correspondence author)*

121. Issara-Amphorn J, Dang CP, Saisorn W, Limbutara K, **Leelahavanichkul A*.** Candida Administration in Bilateral Nephrectomy Mice Elevates Serum (1→3)-β-D-glucan That Enhances Systemic Inflammation Through Energy Augmentation in Macrophages. *Int J Mol Sci.* 2021 May 10;22(9):5031. *(impact factor 4.932) (*correspondence author)*

122. Saithong S, Saisorn W, Visitchanakun P, Sae-Khow K, Chiewchengchol D, **Leelahavanichkul A***. A Synergy Between Endotoxin and (1→3)-Beta-D-Glucan Enhanced Neutrophil Extracellular Traps in Candida Administered Dextran Sulfate Solution Induced Colitis in FcGRIIB-/- Lupus Mice, an Impact of Intestinal Fungi in Lupus. *J Inflamm Res.* 2021 Jun 1;14:2333-2352. *(impact factor 4.953) (*correspondence author)*

123. Visitchanakun P, Panpetch W, Saisorn W, Chatthanathon P, Wannigama DL, Thim-Uam A, Svasti S, Fucharoen S, Somboonna N, **Leelahavanichkul A***. Increased susceptibility to dextran

sulfate-induced mucositis of iron-overload β-thalassemia mice, another endogenous cause of septicemia in thalassemia. *Clin Sci (Lond).* 2021 Jun 25;135(12):1467-1486. *(impact factor 5.220) (*correspondence author)*

124. Udomkarnjananun S, Naiyarakseree N, Townamchai N, Surinrat E, Tiankanon K, Banjongjit A, Vanichanan J, Jutivorakool K, Putcharoen O, Suankratay C, Surintrspanont J, Iampenkhae K, **Leelahavanichkul A,** Wattanatorn S, Apisutimaitri K, Burimsittichai R, Ratchanon S, Nonthasoot B, Sirichindakul B, Praditpornsilpa K, Avihingsanon Y. The first report of kidney transplantation in a human immunodeficiency virus-positive recipient in Thailand and literature review: Encouragement for developing countries in Southeast Asia. *SAGE Open Med Case Rep.* 2021 Jun 18;9:2050313X211024471.

125. Saisorn W, Saithong S, Phuengmaung P, Udompornpitak K, Bhunyakarnjanarat T, Visitchanakun P, Chareonsappakit A, Pisitkun P, Chiewchengchol D, **Leelahavanichkul A***. Acute Kidney Injury Induced Lupus Exacerbation Through the Enhanced Neutrophil Extracellular Traps (and Apoptosis) in Fcgr2b Deficient Lupus Mice With Renal Ischemia Reperfusion Injury. *Front Immunol.* 2021 Jun 24;12:669162. *(impact factor 5.085) (*correspondence author)*

126. Boonhai S, Bootdee K, Saisorn W, Takkavatakarn K, Sitticharoenchai P, Tungsanga S, Tiranathanagul K, **Leelahavanichkul A***. TMAO reductase, a biomarker for gut permeability defect induced inflammation, in mouse model of chronic kidney disease and dextran sulfate solution-induced mucositis. *Asian Pac J Allergy Immunol.* 2021 Jul 21. *(impact factor 2.31) (*correspondence author)*

127. Sakunrangsit N, Pholtaisong J, Sucharitakul J, Wanna-Udom S, Prombutara P, Pisitkun P, **Leelahavanichkul A**, Aporntewan C, Greenblatt MB, Lotinun S. Identification of candidate regulators of mandibular bone loss in FcγRIIB-/- Mice. *Sci Rep.* 2021 Sep 21;11(1):18726. *(impact factor 4.379)*

128. Chancharoenthana W, **Leelahavanichkul A**, Ariyanon W, Vadcharavivad S, Phumratanaprapin W. Comparative Long-Term Renal Allograft Outcomes of Recurrent Immunoglobulin A with Severe Activity in Kidney Transplant Recipients with and without Rituximab: An Observational Cohort Study. *J Clin Med.* 2021 Aug 31;10(17):3939. *(impact factor 2.046)*

129. Dang CP, Weawseetong S, Charoensappakit A, Sae-Khow K, Thong-Aram D and **Leelahavanichkul A***. Non-Thermal Atmospheric Pressure Argon-Sourced Plasma Flux Promotes Wound Healing of Burn Wounds and Burn Wounds with Infection in Mice through the Anti-Inflammatory Macrophages. *Appl. Sci.* 2021, 11, 5343. *(impact factor 2.842) (*correspondence author)*

130. Sakunrangsit N, Pholtaisong J, Sucharitakul J, Wanna-Udom S, Prombutara P, Pisitkun P, **Leelahavanichkul A**, Aporntewan C, Greenblatt MB, Lotinun S. Identification of candidate regulators of mandibular bone loss in FcγRIIB-/- Mice. *Sci Rep.* 2021 Sep 21;11(1):18726. *(impact factor 5.133)*

131. Takkavatakarn K, Puapatanakul P, Phannajit J, Sukkumme W, Chariyavilaskul P, Sitticharoenchai P, **Leelahavanichkul A**, Katavetin P, Praditpornsilpa K, Eiam-Ong S, Susantitaphong P. Protein-Bound Uremic Toxins Lowering Effect of Sevelamer in Pre-Dialysis Chronic Kidney Disease Patients with Hyperphosphatemia: A Randomized Controlled Trial. *Toxins (Basel).* 2021 Sep 27;13(10):688. *(impact factor 3.531)*

132. Phuengmaung P, Panpetch W, Singkham-In U, Chatsuwan T, Chirathaworn C, **Leelahavanichkul A***. Presence of Candida tropicalis on Staphylococcus epidermidis Biofilms Facilitated Biofilm Production and Candida Dissemination: An Impact of Fungi on Bacterial Biofilms. *Front Cell Infect Microbiol.* 2021 Oct 22;11:763239 *(impact factor 4.3) (*correspondence author)*

133. Visitchanakun P, Kaewduangduen W, Chareonsappakit A, Susantitaphong P, Pisitkun P, Ritprajak P, Townamchai N, **Leelahavanichkul A***. Interference on Cytosolic DNA Activation Attenuates Sepsis Severity: Experiments on Cyclic GMP-AMP Synthase (cGAS) Deficient Mice. *Int J Mol Sci.* 2021 Oct 23;22(21):11450. *(impact factor 5.92) (*correspondence author)*

134. Shein AMS, Wannigama DL, Higgins PG, Hurst C, Abe S, Hongsing P, Chantaravisoot N, Saethang T, Luk-In S, Liao T, Nilgate S, Rirerm U, Kueakulpattana N, Laowansiri M, Srisakul S, Muhummudaree N, Techawiwattanaboon T, Gan L, Xu C, Kupwiwat R, Phattharapornjaroen P, Rojanathanes R, **Leelahavanichkul A**, Chatsuwan T. Novel colistin-EDTA combination for successful eradication of colistin-resistant Klebsiella pneumoniae catheter-related biofilm infections. *Sci Rep.* 2021 Nov 4;11(1):21676. *(impact factor 5.13)*

135. Chancharoenthana W, Udompronpitak K, Manochantr Y, Kantagowit P, Kaewkanha P, Issara-Amphorn J, **Leelahavanichkul A**. Repurposing of High-Dose Erythropoietin as a Potential Drug Attenuates Sepsis in Preconditioning Renal Injury. *Cells.* 2021 Nov 12;10(11):3133. *(impact factor 4.829) (*correspondence author)*

136. Chancharoenthana W, **Leelahavanichkul A**, Ariyanon W, Vadcharavivad S, Phatcharophaswattanakul S, Kamolratanakul S, Leaungwutiwong P, Phumratanaprapin W, Wilairatana P. Leaky Gut Syndrome Is Associated with Endotoxemia and Serum (1→3)-β-D-Glucan in Severe Dengue Infection. *Microorganisms.* 2021 Nov 19;9(11):2390. *(impact factor 4.167)*

137. Panpetch W, Phuengmaung P, Cheibchalard T, Somboonna N, **Leelahavanichkul A***, Tumwasorn S. Lacticaseibacillus casei Strain T21 Attenuates Clostridioides difficile Infection in a Murine Model Through Reduction of Inflammation and Gut Dysbiosis With Decreased Toxin Lethality and Enhanced Mucin Production. *Front Microbiol.* 2021 Dec 1;12:745299. *(impact factor 4.235) (*correspondence author)*

138. Panpetch W, Visitchanakun P, Saisorn W, Sawatpanich A, Chatthanathon P, Somboonna N, Tumwasorn S, **Leelahavanichkul A***. Lactobacillus rhamnosus attenuates Thai chili extracts induced gut inflammation and dysbiosis despite capsaicin bactericidal effect against the probiotics, a possible toxicity of high dose capsaicin. *PLoS One.* 2021 Dec 23;16(12):e0261189. *(impact factor 3.24) (*correspondence author)*

139. Ondee T, Pongpirul K, Janchot K, Kanacharoen S, Lertmongkolaksorn T, Wongsaroj L, Somboonna N, Ngamwongsatit N, **Leelahavanichkul A***. Lactiplantibacillus plantarum dfa1 Outperforms Enterococcus faecium dfa1 on Anti-Obesity in High Fat-Induced Obesity Mice Possibly through the Differences in Gut Dysbiosis Attenuation, despite the Similar Anti-Inflammatory Properties. *Nutrients.* 2021 Dec 25;14(1):80 *(impact factor 5.1717) (*correspondence author)*

140. Saithong S, Saisorn W, Dang CP, Visitchanakun P, Chiewchengchol D, **Leelahavanichkul A***. Candida Administration Worsens Neutrophil Extracellular Traps in Renal Ischemia Reperfusion Injury Mice: An Impact of Gut Fungi on Acute Kidney Injury. *J Innate Immun.* 2022 Jan 28:1-16. *(impact factor 7.349) (*correspondence author)*

141. Tungsanga S, Katavetin P, Panpetch W, Udompornpitak K, Saisorn W, Praditpornsilpa K, Eiam-Ong S, Tungsanga K, Tumwasorn S, **Leelahavanichkul A***. Lactobacillus rhamnosus L34 attenuates chronic kidney disease progression in 5/6 nephrectomy mouse model through the excretion of anti-inflammatory molecules. *Nephrol Dial Transplant.* 2022 Feb 9:gfac032. *(impact factor 4.085) (*correspondence author)*

142. Makjaroen J, Thim-Uam A, Dang CP, Pisitkun T, Somparn P, **Leelahavanichkul A***. A Comparison Between 1 Day versus 7 Days of Sepsis in Mice with the Experiments on LPS-Activated Macrophages Support the Use of Intravenous Immunoglobulin for Sepsis Attenuation. *J Inflamm Res.* 2021 Dec 22;14:7243-7263. *(impact factor 6.922) (*correspondence author)*

143. Chancharoenthana W, **Leelahavanichkul A**, Schultz MJ, Dondorp AM. Going Micro in Leptospirosis Kidney Disease. *Cells.* 2022 Feb 16;11(4):698. *(impact factor 5.656)*

144. Toprangkobsin P, Banlunara W, Limcharoen B, **Leelahavanichkul A**, Asawanonda P, Kumtornrut C, Sansureerungsikul T, Rutwaree T, Wanichwecharungruang S. Delivery and diffusion of retinal in dermis and epidermis through the combination of prodrug nanoparticles and detachable dissolvable microneedles. *Drug Deliv Transl Res*. 2022 Feb 21. *(impact factor 4.617)*

145. Kaewduangduen W, Visitchanakun P, Saisorn W, Phawadee A, Manonitnantawat C, Chutimaskul C, Susantitaphong P, Ritprajak P, Somboonna N, Cheibchalard T, Wannigama DL, Kueanjinda P, **Leelahavanichkul A***. Blood Bacteria-Free DNA in Septic Mice Enhances LPS-Induced Inflammation in Mice through Macrophage Response. *Int J Mol Sci*. 2022 Feb 8;23(3):1907. *(impact factor 5.923) (*correspondence author)*

146. Thim-Uam A, Makjaroen J, Issara-Amphorn J, Saisorn W, Wannigama DL, Chancharoenthana W, **Leelahavanichkul A***. Enhanced Bacteremia in Dextran Sulfate-Induced Colitis in Splenectomy Mice Correlates with Gut Dysbiosis and LPS Tolerance. *Int J Mol Sci*. 2022 Jan 31;23(3):1676. *(impact factor 5.923) (*correspondence author)*

147. Hengphasatporn K, Wilasluck P, Deetanya P, Wangkanont K, Chavasiri W, Visitchanakun P, **Leelahavanichkul A**, Paunrat W, Boonyasuppayakorn S, Rungrotmongkol T, Hannongbua S, Shigeta Y. Halogenated Baicalein as a Promising Antiviral Agent toward SARS-CoV-2 Main Protease. *J Chem Inf Model*. 2022 Mar 4. *(impact factor 4.956)*

148. Akasov R, Khaydukov EV, Yamada M, Zvyagin AV, **Leelahavanichkul A**, Leanse LG, Prow TW, Dai T. Nanoparticle Enhanced Blue Light Therapy. *Adv Drug Deliv Rev*. 2022 Mar 14:114198. *(impact factor 13.3)*

149. Tungsanga S, Panpetch W, Bhunyakarnjanarat T, Udompornpitak K, Katavetin P, Chancharoenthana W, Chatthanathon P, Somboonna N, Tungsanga K, Tumwasorn S, **Leelahavanichkul A***. Uremia-Induced Gut Barrier Defect in 5/6 Nephrectomized Mice Is Worsened by Candida Administration through a Synergy of Uremic Toxin, Lipopolysaccharide, and (1→3)-β-D-Glucan, but Is Attenuated by Lacticaseibacillus rhamnosus L34. *Int J Mol Sci*. 2022 Feb 24;23(5):2511. *(impact factor 5.923) (*correspondence author)*

150. Lordumrongkiat N, Chotechuang N, Prasanth MI, Jindatip D, Ma-On C, Chuenwisad K, **Leelahavanichkul A**, Tencomnao T, Boonla C. HydroZitLa inhibits calcium oxalate stone formation in nephrolithic rats and promotes longevity in nematode Caenorhabditis elegans. *Sci Rep*. 2022 Mar 24;12(1):5102

151. Saithong S, Worasilchai N, Saisorn W, Udompornpitak K, Bhunyakarnjanarat T, Chindamporn A, Tovichayathamrong P, Torvorapanit P, Chiewchengchol D, Chancharoenthana W, **Leelahavanichkul A***. Neutrophil Extracellular Traps in Severe SARS-CoV-2 Infection: A Possible Impact of LPS and (1→3)-β-D-glucan in Blood from Gut Translocation. *Cells*. 2022; 11(7):1103. (impact factor 4.829) (*correspondence author)

152. Hiengrach P, Visitchanakun P, Finkelman MA, Chancharoenthana W, **Leelahavanichkul A***. More Prominent Inflammatory Response to Pachyman than to Whole-Glucan Particle and Oat-β-Glucans in Dextran Sulfate-Induced Mucositis Mice and Mouse Injection through Proinflammatory Macrophages. *Int J Mol Sci*. 2022 Apr 5;23(7):4026. (impact factor 5.923) (*correspondence author)

153. Saithong S, Saisorn W, Tovichayathamrong P, Filbertine G, Torvorapanit P, Wright HL, Edwards SW, **Leelahavanichkul A**, Hirankarn N, Chiewchengchol D. Anti-Inflammatory Effects and Decreased Formation of Neutrophil Extracellular Traps by Enoxaparin in COVID-19 Patients. *Int J Mol Sci*. 2022 Apr 27;23(9):4805. (impact factor 5.923)

154. Wanna-Udom S, Luesiripong C, Sakunrangsit N, Metheepakornchai P, Intharamonthian S, Svasti S, Greenblatt MB, **Leelahavanichkul A**, Lotinun S. High phosphate intake induces bone loss in nephrectomized thalassemic mice. *PLoS One*. 2022 May 27;17(5):e0268732. (impact factor 3.24)

155. Hiengrach P, Visitchanakun P, Tongchairawewat P, Tangsirisatian P, Jungteerapanich T, Ritprajak P, Wannigama DL, Tangtanatakul P, **Leelahavanichkul A***. Sepsis Encephalopathy Is Partly Mediated by miR370-3p-Induced Mitochondrial Injury but Attenuated by BAM15 in Cecal Ligation and Puncture Sepsis Male Mice. *Int J Mol Sci.* 2022 May 13;23(10):5445. (impact factor 5.923) (*correspondence author)

156. Chancharoenthana W, Kamolratanakul S, Ariyanon W, Thanachartwet V, Phumratanaprapin W, Wilairatana P, **Leelahavanichkul A***. Abnormal Blood Bacteriome, Gut Dysbiosis, and Progression to Severe Dengue Disease. *Front Cell Infect Microbiol.* 2022 Jun 17;12:890817. (impact factor 5.79) (*correspondence author)

157. Srisakul S, Wannigama DL, Higgins PG, Hurst C, Abe S, Hongsing P, Saethang T, Luk-In S, Liao T, Kueakulpattana N, Shein AMS, Gan L, Kupwiwat R, Tanasatitchai C, Wapeesittipan P, Phattharapornjaroen P, Badavath VN, **Leelahavanichkul A**, Chatsuwan T. Overcoming addition of phosphoethanolamine to lipid A mediated colistin resistance in Acinetobacter baumannii clinical isolates with colistin-sulbactam combination therapy. *Sci Rep.* 2022 Jul 6;12(1):11390.

158. Panpetch W, Phuengmaung P, Hiengrach P, Issara-Amphorn J, Cheibchalard T, Somboonna N, Tumwasorn S, **Leelahavanichkul A***. Candida Worsens Klebsiella pneumoniae Induced-Sepsis in a Mouse Model with Low Dose Dextran Sulfate Solution through Gut Dysbiosis and Enhanced Inflammation. *Int J Mol Sci.* 2022 Jun 24;23(13):7050 (impact factor 6.122) (*correspondence author)

159. Charoensappakit A, Sae-Khow K, **Leelahavanichkul A***. Gut Barrier Damage and Gut Translocation of Pathogen Molecules in Lupus, an Impact of Innate Immunity (Macrophages and Neutrophils) in Autoimmune Disease. *Int J Mol Sci.* 2022 Jul 26;23(15):8223. (impact factor 6.122) (*correspondence author)

160. Shein AMS, Wannigama DL, Higgins PG, Hurst C, Abe S, Hongsing P, Chantaravisoot N, Saethang T, Luk-In S, Liao T, Nilgate S, Rirerm U, Kueakulpattana N, Srisakul S, Aryukarn A, Laowansiri M, Hao LY, Yonpiam M, Ragupathi NKD, Techawiwattanaboon T, Ngamwongsatit N, Amarasiri M, Ounjai P, Kupwiwat R, Phattharapornjaroen P, Badavath VN, **Leelahavanichkul A**, Kicic A, Chatsuwan T. High prevalence of mgrB-mediated colistin resistance among carbapenem-resistant Klebsiella pneumoniae is associated with biofilm formation, and can be overcome by colistin-EDTA combination therapy. *Sci Rep.* 2022 Jul 28;12(1):12939.

161. Singkham-In U, Phuengmaung P, Makjaroen J, Saisorn W, Bhunyakarnjanarat T, Chatsuwan T, Chirathaworn C, Chancharoenthana W, **Leelahavanichkul A***. Chlorhexidine Promotes Psl Expression in Pseudomonas aeruginosa That Enhances Cell Aggregation with Preserved Pathogenicity Demonstrates an Adaptation against Antiseptic. *Int J Mol Sci.* 2022 Jul 27;23(15):8308. (impact factor 6.122) (*correspondence author)

162. Hiengrach P, Panpetch W, Chindamporn A, **Leelahavanichkul A***. Helicobacter pylori, Protected from Antibiotics and Stresses Inside Candida albicans Vacuoles, Cause Gastritis in Mice. *Int J Mol Sci.* 2022 Aug 2;23(15):8568. (impact factor 6.122) (*correspondence author)

163. Chancharoenthana W, Sutnu N, Visitchanakun P, Sawaswong V, Chitcharoen S, Payungporn S, Schuetz A, Schultz MJ, **Leelahavanichkul A***. Critical roles of sepsis-reshaped fecal virota in attenuating sepsis severity. *Front Immunol.* 2022 Aug 2;13:940935. (impact factor 8.786) (*correspondence author)

164. Phuengmaung P, Mekjaroen J, Saisorn W, Chatsuwan T, Somparn P, **Leelahavanichkul A***. Rapid Synergistic Biofilm Production of Pseudomonas and Candida on the Pulmonary Cell Surface and in Mice, a Possible Cause of Chronic Mixed Organismal Lung Lesions. *Int J Mol Sci.* 2022 Aug 16;23(16):9202. (impact factor 6.122) (*correspondence author)

165. Binmama S, Dang CP, Visitchanakun P, Hiengrach P, Somboonna N, Cheibchalard T, Pisitkun P, Chindamporn A, **Leelahavanichkul A***. Beta-Glucan from S. cerevisiae Protected AOM-Induced Colon Cancer in cGAS-Deficient Mice Partly through Dectin-1-Manipulated

Macrophage Cell Energy. *Int J Mol Sci.* 2022 Sep 19;23(18):10951. (impact factor 6.122) (*correspondence author)

166. Udompornpitak K, Charoensappakit A, Sae-Khow K, Bhunyakarnjanarat T, Dang CP, Saisorn W, Visitchanakun P, Phuengmaung P, Palaga T, Ritprajak P, Tungsanga S, **Leelahavanichkul A***. Obesity Exacerbates Lupus Activity in Fc Gamma Receptor IIb Deficient Lupus Mice Partly through Saturated Fatty Acid-Induced Gut Barrier Defect and Systemic Inflammation. *J Innate Immun.* 2022 Oct 11:1-22. (impact factor 7.349) (*correspondence author)

167. Wannigama DL, Amarasiri M, Hongsing P, Hurst C, Modchang C, Chadsuthi S, Anupong S, Phattharapornjaroen P, S M AHR, Fernandez S, Huang AT, Kueakulpattana N, Tanasatitchai C, Vatanaprasan P, Saethang T, Luk-In S, Storer RJ, Ounjai P, Ragupathi NKD, Kanthawee P, Sano D, Furukawa T, Sei K, **Leelahavanichkul A**, Kanjanabuch T, Hirankarn N, Higgins PG, Kicic A, Chatsuwan T, McLellan AD, Abe S. Multiple traces of monkeypox detected in non-sewered wastewater with sparse sampling from a densely populated metropolitan area in Asia. *Sci Total Environ.* 2023 Feb 1;858(Pt 1):159816. (impact factor 10.75)

168. Tungsanga S, Udompornpitak K, Worasilchai J, Ratana-Aneckchai T, Wannigama DL, Katavetin P, **Leelahavanichkul A***. Candida Administration in 5/6 Nephrectomized Mice Enhanced Fibrosis in Internal Organs: An Impact of Lipopolysaccharide and (1→3)-β-D-Glucan from Leaky Gut. *Int J Mol Sci.* 2022 Dec 15;23(24):15987. (impact factor 6.122) (*correspondence author)

169. Kumpunya S, Thim-Uam A, Thumarat C, **Leelahavanichkul A**, Kalpongnukul N, Chantaravisoot N, Pisitkun T, Pisitkun P. cGAS deficiency enhances inflammasome activation in macrophages and inflammatory pathology in pristane-induced lupus. *Front Immunol.* 2022 Dec 16;13:1010764. (impact factor 7.61)

170. Sae-Khow K, Charoensappakit A, Chiewchengchol D, **Leelahavanichkul A***. High-Dose Intravenous Ascorbate in Sepsis, a Pro-Oxidant Enhanced Microbicidal Activity and the Effect on Neutrophil Functions. *Biomedicines.* 2022 Dec 25;11(1):51. (impact factor 4.757) (*correspondence author)

171. Wongsamart R, Bhattarakasol P, Chaiwongkot A, Wongsawaeng D, Okada PA, Palaga T, **Leelahavanichkul A**, Khovidhunkit W, Dean D, Somboonna N. Multiplex recombinase polymerase amplification for high-risk and low-risk type HPV detection, as potential local use in single tube. *Sci Rep.* 2023 Jan 16;13(1):829. (impact factor 4.996)

172. Makjaroen J, Phuengmaung P, Saisorn W, Udomkarnjananun S, Pisitkun T, **Leelahavanichkul A***. Lipopolysaccharide Tolerance Enhances Murine Norovirus Reactivation: An Impact of Macrophages Mainly Evaluated by Proteomic Analysis. *Int J Mol Sci.* 2023 Jan 17;24(3):1829. (impact factor 6.122) (*correspondence author)

173. Tongthong T, Kaewduangduen W, Phuengmaung P, Chancharoenthana W, **Leelahavanichkul A***. Lacticaseibacillus rhamnosus dfa1 Attenuate Cecal Ligation-Induced Systemic Inflammation through the Interference in Gut Dysbiosis, Leaky Gut, and Enterocytic Cell Energy. *Int J Mol Sci.* 2023 Feb 13;24(4):3756. (impact factor 6.122) (*correspondence author)

174. Chancharoenthana W, Kamolratanakul S, Visitchanakun P, Sontidejkul S, Cheibchalard T, Somboonna N, Settachaimongkon S, **Leelahavanichkul A***. *Lacticaseibacilli* attenuated fecal dysbiosis and metabolome changes in *Candida*-administered bilateral nephrectomy mice. *Front Immunol.* 2023 Mar 9;14:1131447. (impact factor 8.786) (*correspondence author)

175. Kunanopparat A, **Leelahavanichkul A***, Visitchanakun P, Kueanjinda P, Phuengmaung P, Sae-Khow K, Boonmee A, Benjaskulluecha S, Palaga T, Hirankarn N. The Regulatory Roles of Ezh2 in Response to Lipopolysaccharide (LPS) in Macrophages and Mice with Conditional Ezh2 Deletion with LysM-Cre System. *Int J Mol Sci.* 2023 Mar 10;24(6):5363. (impact factor 6.122) (*correspondence author)

176. Ondee T, Pongpirul K, Udompornpitak K, Sukkummee W, Lertmongkolaksorn T, Senaprom S, **Leelahavanichkul A***. High Fructose Causes More Prominent Liver Steatohepatitis with Leaky Gut Similar to High Glucose Administration in Mice and Attenuation by *Lactiplantibacillus plantarum* dfa1. *Nutrients*. 2023 Mar 17;15(6):1462. (impact factor 6.706) (*correspondence author)

177. Chancharoenthana W, Kamolratanakul S, Schultz MJ, **Leelahavanichkul A***. The leaky gut and the gut microbiome in sepsis - targets in research and treatment. *Clin Sci (Lond)*. 2023 Apr 26;137(8):645-662. (impact factor 6.876) (*correspondence author)

178. Khiewkamrop P, Kaewraemruaen C, Manipuntee C, Saengruengrit C, Insin N, **Leelahavanichkul A**, Kaewduangduen W, Sonpoung O, Ariya-Anandech K, Hirankarn N, Ritprajak P. Immunosuppressive Polymeric Nanoparticles Targeting Dendritic Cells Alleviate Lupus Disease in Fcgr2b-/- Mice by Mediating Antigen-Specific Immune Tolerance. *Int J Mol Sci*. 2023 May 5;24(9):8313. (impact factor 6.208)

179. Suksawad N, Udompornpitak K, Thawinpipat N, Korwattanamongkol P, Visitchanakun P, Phuengmaung P, Saisorn W, Kueanjinda P, **Leelahavanichkul A***. Cyclic GMP-AMP Synthase (cGAS) Deletion Reduces Severity in Bilateral Nephrectomy Mice through Changes in Neutrophil Extracellular Traps and Mitochondrial Respiration. *Biomedicines*. 2023 Apr 18;11(4):1208. (impact factor 4.757) (*correspondence author)

180. Phuengmaung P, Khiewkamrop P, Makjaroen J, Issara-Amphorn J, Boonmee A, Benjaskulluecha S, Ritprajak P, Nita-Lazar A, Palaga T, Hirankarn N, **Leelahavanichkul A***. Less Severe Sepsis in Cecal Ligation and Puncture Models with and without Lipopolysaccharide in Mice with Conditional Ezh2-Deleted Macrophages (LysM-Cre System). *Int J Mol Sci*. 2023 May 10;24(10):8517. (impact factor 6.208) (*correspondence author)

181. Chancharoenthana W, Kamolratanakul S, **Leelahavanichkul A**, Ariyanon W, Chinpraditsuk S, Saelim R, Vadcharavivad S, Phumratanaprapin W, Wilairatana P. Gastrointestinal manifestations of long-term effects after COVID-19 infection in patients with dialysis or kidney transplantation: An observational cohort study. *World J Gastroenterol*. 2023 May 21;29(19):3013-3026. (impact factor 5.374)

182. Bhunyakarnjanarat T, Prapunwatana P, Tiranathanagul K, **Leelahavanichkul A***. Determination of the number of times for reuse of hemodialysis dialyzer through macrophage responses against dialyzer-eluted protein, a proposed method. *Asian Pac J Allergy Immunol*. 2023 Jun 11. (impact factor 7.143) (*correspondence author)

183. Wannigama DL, Amarasiri M, Hongsing P, Hurst C, Modchang C, Chadsuthi S, Anupong S, Phattharapornjaroen P, Rad S M AH, Fernandez S, Huang AT, Vatanaprasan P, Jay DJ, Saethang T, Luk-In S, Storer RJ, Ounjai P, Devanga Ragupathi NK, Kanthawee P, Sano D, Furukawa T, Sei K, **Leelahavanichkul A**, Kanjanabuch T, Hirankarn N, Higgins PG, Kicic A, Singer AC, Chatsuwan T, Trowsdale S, Abe S, McLellan AD, Ishikawa H. COVID-19 monitoring with sparse sampling of sewered and non-sewered wastewater in urban and rural communities. *iScience*. 2023 Jul 21;26(7):107019. doi: 10.1016/j.isci.2023.107019.

184. Saisorn W, Phuengmaung P, Issara-Amphorn J, Makjaroen J, Visitchanakun P, Sae-Khow K, Boonmee A, Benjaskulluecha S, Nita-Lazar A, Palaga T, **Leelahavanichkul A***. Less Severe Lipopolysaccharide-Induced Inflammation in Conditional mgmt-Deleted Mice with LysM-Cre System: The Loss of DNA Repair in Macrophages. *Int J Mol Sci*. 2023 Jun 14;24(12):10139. (impact factor 6.208) (*correspondence author)

185. Sae-Khow K, Phuengmaung P, Issara-Amphorn J, Makjaroen J, Visitchanakun P, Boonmee A, Benjaskulluecha S, Palaga T, **Leelahavanichkul A***. Less Severe Polymicrobial Sepsis in Conditional mgmt-Deleted Mice Using LysM-Cre System, Impacts of DNA Methylation and MGMT Inhibitor in Sepsis. *Int J Mol Sci*. 2023 Jun 15;24(12):10175. (impact factor 6.208) (*correspondence author)

186. Tran HG, Shuayprom A, Kueanjinda P, **Leelahavanichkul A**, Wongsinkongman P, Chaisomboonpan S, Tawatsin A, Ruchusatsawat K, Wongpiyabovorn J. Oxyresveratrol Attenuates Inflammation in Human Keratinocyte via Regulating NF-kB Signaling and Ameliorates Eczematous Lesion in DNCB-Induced Dermatitis Mice. *Pharmaceutics*. 2023 Jun 12;15(6):1709.

187. Toejing P, Sakunrangsit N, Pho-On P, Phetkong C, **Leelahavanichkul A**, Sridurongrit S, Greenblatt MB, Lotinun S. Accelerated Bone Loss in Transgenic Mice Expressing Constitutively Active TGF-β Receptor Type I. *Int J Mol Sci*. 2023 Jun 28;24(13):10797.

188. Wannigama DL, Amarasiri M, Phattharapornjaroen P, Hurst C, Modchang C, Chadsuthi S, Anupong S, Miyanaga K, Cui L, Thuptimdang W, Ali Hosseini Rad SM, Fernandez S, Huang AT, Vatanaprasan P, Jay DJ, Saethang T, Luk-In S, Storer RJ, Ounjai P, Ragupathi NKD, Kanthawee P, Sano D, Furukawa T, Sei K, **Leelahavanichkul A**, Kanjanabuch T, Higgins PG, Nanbo A, Kicic A, Singer AC, Chatsuwan T, Trowsdale S, Siow R, Shibuya K, Abe S, Ishikawa H, Hongsing P. Tracing the transmission of Mpox through wastewater surveillance in Southeast Asia. *J Travel Med*. 2023

189. Wannigama DL, Sithu Shein AM, Hurst C, Monk PN, Hongsing P, Phattharapornjaroen P, Fox Ditcham WG, Ounjai P, Saethang T, Chantaravisoot N, Wapeesittipan P, Luk-In S, Sae-Joo S, Nilgate S, Rirerm U, Tanasatitchai C, Kueakulpattana N, Laowansiri M, Liao T, Kupwiwat R, Rojanathanes R, Ngamwongsatit N, Tungsanga S, **Leelahavanichkul A**, Devanga Ragupathi NK, Badavath VN, Hosseini Rad SMA, Kanjanabuch T, Hirankarn N, Storer RJ, Cui L, Amarasiri M, Ishikawa H, Higgins PG, Stick SM, Kicic A, Chatsuwan T, Abe S. Ca-EDTA restores the activity of ceftazidime-avibactam or aztreonam against carbapenemase-producing Klebsiellapneumoniae infections. *iScience*. 2023 Jun 28;26(7):107215.

Chapters:

1. **Leelahavnichkul A** and Suankatai S. Management of Cryptococcal Meningitis. In *Update in antimicrobial agents and vaccinations* Edited by Suwannakhun P, Tantawichaen T. Bangkok: Text and journal publication Co., 301-320, 2001.
2. Buranalertpisarn V, Katavatin P, **Leelahavanichkul A**. and Eiam-Ong S. Renal Action of Angiotensin II And Angiotensin II Receptor Blocker. In *Angiotensin II Receptor Blocker*. Edited by S Eiam-Ong, S Sitthisook and S Sangwatanaroj. Bangkok: Text and Journal Publication Co., 39-74, 2003.
3. **Leelahavanichkul A**, Katavatin P and Kanchanabuch T. Glomerulonephritis in Viral Infection. In *Molecular/cellular and clinical basic of infectious diseases*. Edited by S Watthanasirichaikul. Bangkok: Medical creative Co., 1082-1112, 2004.
4. Katavatin P, **Leelahavanichkul A** and Kanchanabuch T. Glomerulonephritis in Bacterial Infection. In *Molecular/cellular and clinical basic of infectious diseases*. Edited by S Watthanasirichaikul. Bangkok: Medical creative Co., 1068-1081, 2004.
5. **Leelahavanichkul A**, Eiam-Ong S and Komolmit P. Viral Hepatitis and Kidney. In *Nephrology*. Edited by S Eiam-Ong S. Bangkok: Text and journal publication Co., 956 -984, 2004.
6. **Leelahavanichkul A**, Eiam-Ong S and Prasitsirikul V. Humural Immune Deficiency Virus and Kidney. In *Nephrology*. Edited by S Eiam-Ong. Bangkok: Text and journal publication Co., 2004: 1092-1134

7. **Leelahavanichkul A**, Eiam-Ong S and Kanchanabuch T. Amyloidosis and Kidney. In *Nephrology*. Edited by S Eiam-Ong. Bangkok: Text and journal publication Co., 1153-1188, 2004.
8. **Leelahavanichkul A**, Kanjanabuch T. and Eiam-Ong S. Acute tubulointerstitial Nephritis. In *Nephrology*. Edited by S Eiam-Ong. Bangkok: Text and journal publication Co., 1316-1340, 2004.
9. **Leelahavanichkul A**.Vascular flow rate measurement. In *Essentials in Chronic Hemodialysis*. Edited by S Eiam-Ong. Bangkok: Text and journal publication Co., 113-134, 2005.
10. **Leelahavanichkul A**., Kanjanabuch T. Minimal change diseases, IgM nephropathy and C1q nephropathy. In *Nephrology*. Edited by S Eiam-Ong. Bangkok: Text and journal publication Co., 653-676, 2011.
11. **Leelahavanichkul A**. Focal segmental glomerulosclerosis. In *Nephrology*. Edited by S Eiam-Ong. Bangkok: Text and journal publication Co., 677-716, 2011.
12. **Leelahavanichkul A**. Sepsis and sepsis induced acute kidney injury. In *Nephrology*. Edited by S Eiam-Ong. Bangkok: Text and journal publication Co., 1731-1758, 2011.
13. Tiranathanakul K, **Leelahavanichkul A**, Eiam-ong S, Eiam-ong S. Hyperbilirubinemia associated renal disorders. In Jakub F. Novotny and Florian Sedlacek editors. *Bilirulin: Chemistry, Regulation and disorder*. Hauppauge NY, USA: Nova Science Publishers Inc., 2012 (in Press)
14. Chancharoenthana W, **Leelahavanichkul A**, Eiam-Ong S. Sepsis induced acute kidney injury. InTech. "Sepsis", book edited by Vijay Kumar, ISBN 978-953-51-3396-4, Print ISBN 978-953-51-3395-7, Published: August 23, 20172017 Dec 5