Curriculum Vitae

NATTAYAPORN APAIJAI, Ph.D.

Office Address: Cardiac Electrophysiology Research and Training Center (CERT)
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EDUCATION

2010	B.Sc. (Physical Therapy) Faculty of Associated Medical Science, Chiang Mai University, Chiang Mai, Thailand
2012	M.Sc. (Physiology – Cardiac Electrophysiology) Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand
2016	Ph.D. (Physiology – Cardiac Electrophysiology) Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

PROFESSIONAL APPOINTMENT

2012	Research Assistant, Cardiac Electrophysiology Research and Training Center (CERT), Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand (Professor Dr. Nipon Chattipakorn, mentor)
2015	Research Trainee, Division of Cardiology, School of Medicine, Johns Hopkins University, Baltimore, MD, USA (Professor Dr. Brian O'Rourke and Professor Dr. Nipon Chattipakorn, mentors)

HONORS AND AWARDS

2010	*Outstanding Academic Achievement Award*, Faculty of Associate Medical Sciences, Chiang Mai University, Chiang Mai, Thailand
2010	Scholarship from the Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand
2012	*Excellent Oral Presentation*, the 1st ASEAN plus three Graduate Research Congress, Chiang Mai, Thailand

2012 – 2015	Scholarship from the Royal Golden Jubilee Ph.D. program (RGJ-Ph.D.), Thailand Research Fund under the Office of the Prime Minister, the Royal Thai Government, Thailand
2015	*Best PhD student in Academic Research*, Chiang Mai University, Chiang Mai, Thailand
2015	*Young Scientist Award*, the 8th Federation of the Asian and Oceanian Physiological Society (FAOPS) Congress, Bangkok, Thailand
2016	*Outstanding Oral Presentation*, the RGJ-PHD congress xvii, Chonburi, Thailand
2017	*The highest-ranking abstract submitted from Thailand and accepted for presentation at the ACC's Annual Scientific Session*, the American College of Cardiology, USA
2018	*Best National PhD Thesis Award in Biomedical Sciences 2018*, the National Research Council of Thailand (with Professor Dr. Nipon Chattipakorn as Major Advisor)
2019	*Nominated participant*, the Global Young Scientist Summit, National Research Foundation of Singapore, Sigapore
2019	*Outstanding Poster Presentation*, the 2019 TRF-OHEC Annual Congress (TOAC), Thailand.

RESEARCH GRANT SUPPORT

09/2016-08/2018	Faculty of Medicine Endowment Fund, Chiang Mai University, Chiang Mai, Thailand "The effects of testosterone deficiency on cardiac function and cardiac mitochondrial dynamics after the presence of obesity and insulin resistance in long term high fat diet fed rats" (PI)
03/2017-02/2019	Faculty of Medicine Endowment Fund, Chiang Mai University, Chiang Mai, Thailand "The comparative effects of long-term high-fat diet and long-term high-fat high-carbohydrate diet consumption on left ventricular function and cardiac mitochondrial function in male obese-insulin resistant rats" (PI)
03/2017-02/2019	The Thailand Research Fund (TRF) - TRF Grant for New Researcher "Mechanistic insights of the effects of dipeptidyl peptidase-4 inhibitor on the heart in male rats with obese-insulin resistance followed by gender hormone deprivation" (PI)
02/2019-01/2021	Faculty of Medicine Endowment Fund, Chiang Mai University, Chiang Mai, Thailand "Prospective pilot study of treatment outcome in radiation-induced xerostomia treated with hyperbaric oxygen therapy (HBOT) on salivary gland function and mitochondrial function isolated from peripheral blood mononuclear cells" (PI)

03/2019-02/2021	The Thailand Research Fund (TRF) - TRF Grant for New Researcher "Roles of necroptosis inhibition on the heart of male obese-insulin resistant rats with and without cardiac ischemia/reperfusion injury" (PI)
02/2019-01/2021	Faculty of Medicine Endowment Fund, Chiang Mai University, Chiang Mai, Thailand "Roles of necroptosis inhibition on the cardiac mitochondrial function in male obese-insulin resistant rats" (PI)
07/2021-06/2023	National Research Council of Thailand – Research Grants for Talented Young Researchers "The effects of MD2 inhibitor and N-acetyl cysteine on cardiac function and mitochondrial function in rats with cardiac ischemia/reperfusion injury" (PI)

SCIENTIFIC ABSTRACT PARTICIPATION AT INTERNATIONAL MEETINGS

August 2022	*Moderated poster presentation*, European Society of Cardiology Congress 2022, Barcelona, Spain
August 2020	*Poster presentation*, European Society of Cardiology Congress 2020
July 2020	*Poster presentation*, Alzheimer's Association International Conference
July 2019	*Poster presentation*, Alzheimer's Association International Conference, Los Angeles, CA, USA
March 2019	*Poster presentation,* Federation of the Asian and Oceanian Physiological Society Congress, Kobe, Japan
January 2019	*Poster presentation*, the Global Young Scientist Summit 2019, Singapore
August 2018	*Poster presentation*, European Society of Cardiology Congress 2018, Munich, Germany
July 2018	*Poster presentation*, Alzheimer's Association International Conference, Chicago, IL, USA
March 2018	*Oral presentation*, Physiology Society of Japan, Kagawa, Japan
July 2017	*Poster presentation*, Alzheimer's Association International Conference, London, UK
March 2017	*Poster presentation*, 66th Annual Scientific Session of the American College of Cardiology, Washington, DC, USA
April 2016	*Poster presentation*, ENDO meeting 2016, Boston, MA, USA
March 2016	*Oral presentation*, Sakura Science Project, Kagawa, Japan
August 2015	*Poster presentation*, European Society of Cardiology Congress 2015, London, UK
March 2014	*Poster presentation*, 63rd Annual Scientific Session of the American College of Cardiology, Washington, DC, USA
March 2012	*Poster presentation*, 2nd Frontier in Cardiovascular Biology meeting, London, UK

SCIENTIFIC ABSTRACT PARTICIPATION AT NATIONAL MEETINGS

January 2019	*Poster presentation*, the 2019 TRF-OHEC Annual Congress (TOAC), Phetchaburi, Thailand.
June 2018	*Oral presentation*, The 16th International Neurologic and Cardiac Electrophysiology Symposium, Chiang Mai, Thailand
June 2016	*Oral presentation*, RGJ-PHD congress xvii, Chonburi, Thailand
November 2015	*Oral presentation*, 8th Federation of the Asian and Oceanian Physiological Society (FAOPS) Congress, Bangkok, Thailand
April 2014	*Oral presentation*, 43rd Annual Scientific Meeting of The Physiology Society of Thailand, Bangkok, Thailand
June 2013	*Oral presentation* in the Thailand Research Fund Senior Research Scholar Meeting Professor Dr. Nipon Chattipakorn, Chiang Mai, Thailand
May 2012	*Poster presentation*, 41st Annual Scientific Meeting of The Physiology Society of Thailand, Bangkok, Thailand
March 2012	*Oral presentation*, 1st ASEAN plus three graduate research congress, Chiang Mai, Thailand

ACADEMIC ACTIVITIES

Current Graduate Student's Dissertation Committee for Ph.D. Program

1. Jirapong Vongsfak, MD **Co-Advisor** (2020-Present)
   Research area: Clinical Medical Sciences
2. Kewarin Jinawong, M.Sc. **Co-Advisor** (2021-Present)
   Research area: Physiology

Graduate Student's Dissertation Examining Committees

1. Natticha Samneang, Member of the PhD's degree committee
   Topic: Physiology
2. Kodchanan Singhanat, Member of the PhD's degree committee
   Topic: Physiology
3. Suchan Liao, Co-Advisor, Member of the PhD's degree committee
   Topic: Physiology (Neurophysiology)
4. Poomarin Surinkaew, MD, Co-Advisor, Member of the PhD's degree committee
   Topic: Clinical Medical Sciences
5. Bussara Suppamaeteekulwat, DDS, Member of the master's degree committee
   Topic: Dentistry (Dental surgery)
6. Juthathip Kasikasetsiri, DDS, Member of the residency Committee

Topic: Dentistry (Dental surgery)

7. Bussarin Arunsak, M.Sc., Member of the master's degree Committee
   Topic: Physiology (Neurophysiology)
8. Kewarin Jinawong, M.Sc., Major Advisor, Member of the master's degree Committee
   Topic: Physiology (Neurophysiology)
9. Borwon Wittayachamnankul, MD, PhD, Member of the PhD's degree Committee
   Topic: Clinical Medical Sciences
10. Passakorn Sawaddiruk, MD, PhD, Member of the PhD's degree Committee
    Topic: Clinical Medical Sciences
11. Chutikorn Khuankaew, DDS, M.Sc., Co-Advisor, Member of the master's degree Committee
    Topic: Oral Medicine, Dentistry
12. Duangkamol Mantor, M.Sc., Member of the master's degree Committee
    Topic: Physiology (Neurophysiology)
13. Puntarik Kaewtep, M.Sc., Member of the master's degree Committee
    Topic: Physiology (Neurophysiology)
14. Apiwan Arinno, M.Sc., **Major Advisor**, Member of the master's degree Committee
    Topic: Physiology (Cardiac Physiology)

PEER REVIEWED ARTICLES

1. Huang H, Oo TT, **Apaijai N**, Chattipakorn N, Chattipakorn SC. An Updated Review of Mitochondrial Transplantation as a Potential Therapeutic Strategy Against Cerebral Ischemia and Cerebral Ischemia/Reperfusion Injury. Mol Neurobiol. 2023 (In press)
2. Prathumsap N, Ongnok B, Khuanjing T, Arinno A, Maneechote C, **Apaijai N**, Chunchai T, Arunsak B, Kerdphoo S, Janjek S, Chattipakorn SC, Chattipakorn N. Vagus nerve stimulation exerts cardioprotection against doxorubicin-induced cardiotoxicity through inhibition of programmed cell death pathways. Cell Mol Life Sci. 2022;80(1):21. (Impact Factor = 9.26; Q1)
3. Chunchai T, **Apaijai N**, Benjanuwattra J, Pintana H, Singhanat K, Arunsak B, Chattipakorn N, Chattipakorn SC. Erythropoietin administration exerted neuroprotective effects against cardiac ischemia/reperfusion injury. Curr Res Pharmacol Drug Discov. 2022;3:100124.
4. Leurcharusmee P, Sawaddiruk P, Punjasawadwong Y, Sugandhavesa N, Klunklin K, Tongprasert S, Sitilertpisan P, **Apaijai N**, Chattipakorn N, Chattipakorn SC. Ischemic preconditioning upregulates Mitofusin2 and preserves muscle strength in tourniquet-induced ischemia/reperfusion. J Orthop Translat. 2022 Oct 14;35:113-121. (Impact Factor = 5.19; Q1)
5. Sriwichaiin S*, **Apaijai N*,** Phrommintikul A, Jaiwongkam T, Kerdphoo S, Pratchayasakul W, Thongmung N, Mahantassanapong U, Vathesatogkit P, Kitiyakara C, Sritara P, Chattipakorn N, Chattipakorn SC. Increased Efficiency of Mitochondrial Coupling with a Reduction in Other Mitochondrial Respiratory Parameters in Peripheral Blood Mononuclear Cells is Observed in Older Adults. J Gerontol A Biol Sci Med Sci. 2022 (Impact Factor = 6.05; Q1)

** These authors contribute equally to this work*

6. Gomutbutra P, Srikamjak T, Sapinun L, Kunaphanh S, Yingchankul N, **Apaijai N**, Shinlapawittayatorn K, Phuackchantuck R, Chattipakorn N, Chattipakorn S. Effect of intensive weekend mindfulness-based intervention on BDNF, mitochondria function, and anxiety. A randomized, crossover clinical trial. Compr Psychoneuroendocrinol; 11: 100137.
7. Benjanuwattra J*, **Apaijai N***, Chunchai T, Singhanat K, Arunsak B, Intachai K, Chattipakorn SC, Chattipakorn N. The temporal impact of erythropoietin administration on mitochondrial function and dynamics in cardiac ischemia/reperfusion injury. Exp Mol Pathol. 2022;104802. (Impact Factor = 3.36, Q2)
   ** These authors contribute equally to this work*
8. Liao S, Luo Y, Chunchai T, Singhanat K, Arunsak B, Benjanuwattra J, **Apaijai N**, Chattipakorn N, Chattipakorn SC. An apoptosis inhibitor suppresses microglial and astrocytic activation after cardiac ischemia/reperfusion injury. Inflamm Res (In press, Impact Factor = 4.58, Q2).
9. Singhanat K, **Apaijai N**, Sumneang N, Maneechote C, Arunsak B, Chunchai T, Chattipakorn SC, Chattipakorn N. Therapeutic potential of a single-dose melatonin in the attenuation of cardiac ischemia/reperfusion injury in prediabetic obese rats. Cell Mol Life Sci. 2022;79(6):300. (Impact Factor = 9.26, Q1)
10. Jinawong K, **Apaijai N**, Piamsiri C, Maneechote C, Arunsak B, Chunchai T, Pintana H, Nawara W, Chattipakorn N, Chattipakorn SC. Mild cognitive impairment occurs in rats during the early remodeling phase of myocardial infarction. Neuroscience. 2022;493:31-40. (Impact Factor = 3.59, Q3)
11. Maneechote C, Chunchai T, **Apaijai N**, Chattipakorn N, Chattipakorn SC. Pharmacological targeting of mitochondrial fission and fusion alleviates cognitive impairment and brain pathologies in pre-diabetic rats. Mol Neurobiol. 2022 (Impact
12. Luo Y*, **Apaijai N***, Liao S, Maneechote C, Chunchai T, Arunsak B, Benjanuwattra J, Yanpiset P, Chattipakorn SC, Chattipakorn N. Therapeutic potentials of cell death inhibitors in rats with cardiac ischaemia/reperfusion injury. J Cell Mol Med. 2022. (Impact Factor = 5.31, Q1)
    ** These authors contribute equally to this work*
13. Leurcharusmee P, Sawaddiruk P, Punjasawadwong Y, Sugundhavesa N, Klunklin K, Tongprasert S, Sitilertpisan P, Jaiwongkam T, **Apaijai N**, Chattipakorn N, Chattipakorn SC. CoenzymeQ10 and ischemic preconditioning potentially prevent tourniquet-induced ischemia/reperfusion in knee arthroplasty, but combined pretreatment possibly neutralizes their beneficial effects. Antioxidants (Basel). 2022; 11(2): 419. (Impact Factor = 6.313, Q1)
14. Prathumsap N, Ongnok B, Khuanjing T, Arinno A, Maneechote C, **Apaijai N**, Chunchai T, Arunsak B, Shinlapawittayatorn K, Chattipakorn SC, Chattipakorn N. Acetylcholine receptor agonists provide cardioprotection in doxorubicin-induced cardiotoxicity via modulating muscarinic M 2 and α7 nicotinic receptor expression. Transl Res. 2021: S1931-5244(21)00288-7. (Impact Factor = 7.012, Q1)
15. Tun Oo T, Sumneang N, Ongnok B, Arunsak B, Chunchai T, Kerdphoo S, **Apaijai N**, Pratchayasakul W, Liang G, Chattipakorn N, Chattipakorn SC. L6H21 protects against cognitive impairment and brain pathologies via toll-like receptor 4-myeloid

differentiation factor 2 signaling in prediabetic rats. Br J Pharmacol. 2022;179(6):1220-1236. (Impact Factor = 8.739, Q1)

16. Sumneang N, Oo TT, Singhanat K, Maneechote C, Arunsak B, Nawara W, Pratchayasakul W, Benjanuwattra J, **Apaijai N**, Liang G, Chattipakorn SC, Chattipakorn N. Inhibition of myeloid differentiation factor 2 attenuates cardiometabolic impairments via reducing cardiac mitochondrial dysfunction, inflammation, apoptosis and ferroptosis in prediabetic rats. Biochim Biophys Acta Mol Basis Dis. 2021;1868(2):166301.
17. Liao S*, **Apaijai N***, Luo Y, Wu J, Chunchai T, Singhanat K, Arunsak B, Benjanuwattra J, Chattipakorn N, Chattipakorn SC. Cell death inhibitors protect against brain damage caused by cardiac ischemia/reperfusion injury. Cell Death Discov. 2021;7(1):312.
** These authors contribute equally to this work*
18. Vongsfak J, Pratchayasakul W, **Apaijai N**, Vaniyapong T, Chattipakorn N, Chattipakorn SC. The alterations in mitochondrial dynamics following cerebral ischemia/reperfusion injury. Antioxidants (Basel). 2021;10(9):1384
19. Ongnok B, Khuanjing T, Chunchai T, Pantiya P, Kerdphoo S, Arunsak B, Nawara W, Jaiwongkam T, **Apaijai N**, Chattipakorn N, Chattipakorn SC. Donepezil protects against doxorubicin-induced chemobrain in rats via attenuation of inflammation and oxidative stress without interfering with doxorubicin efficacy. Neurotherapeutics. 2021 (In press)
20. **Apaijai N**, Jinawong K, Singhanat K, Jaiwongkam T, Kerdphoo S, Chattipakorn S, Chattipakorn N. Necrostatin-1 reduces cardiac and mitochondrial dysfunction in prediabetic rats. J Endocrinol. 2021;251(1):27-39
21. Suppamaeteekulwat B*, **Apaijai N***, Aschaitrakool Y, Chamusri N, Jaiwongkam T, Kerdphoo S, Chattipakorn N, Chattipakorn SC. The differences in mitochondrial function, mitochondrial dynamics, and cell death between odontogenic cysts/tumors and normal dental follicles. Mitochondrion. 2021;59:175-183. (Impact factor = 3.992, Q1)
** These authors contribute equally to this work*
22. Kingnate C, Charoenkwan K, Kumfu S, **Apaijai N**, Jaiwongkam T, Khunamornpong S, Chattipakorn N, Chattipakorn SC. Platinum-based chemotherapy and bevacizumab instigate the destruction of human ovarian cancers via different signaling pathways. Biochem Pharmacol. 2021:114587. (Impact factor = 4.960, Q1)
23. Jinawong K, **Apaijai N**, Chattipakorn N, Chattipakorn SC. Cognitive impairment in myocardial infarction and heart failure. Acta Physiol (Oxf). 2021:e13642. (Impact factor = 5.542, Q1)
24. Saiyasit N, Chunchai T, Jaiwongkam T, Kerdphoo S, **Apaijai N**, Pratchayasakul W, Sripetchwandee J, Chattipakorn N, Chattipakorn SC. Neurotensin receptor 1 agonist provides neuroprotection in pre-diabetic rats. J Endocrinol. 2021;248(1):59-74. (Impact factor = 4.041, Q1)
25. Ketpueak T, Thiennimitr P, **Apaijai N**, Chattipakorn SC, Chattipakorn N. Association of chronic opisthorchis infestation and microbiota alteration on tumorigenesis in

cholangiocarcinoma. Clin Transl Gastroenterol. 2020;12(1):e00292. (Impact factor = 3.374, Q1)

26. Singhanat K, **Apaijai N**, Jaiwongkam T, Kerdphoo S, Chattipakorn SC, Chattipakorn N. Melatonin as a therapy in cardiac ischemia-reperfusion injury: Potential mechanisms by which MT2 activation mediates cardioprotection. J Ad Res. 2020;29:33-34 (Impact factor = 6.99, Q1)
27. **Apaijai N**, Sriwichaiin S, Phrommintikul A, Jaiwongkam T, Kerdphoo S, Chansirikarnjana S, Thongmung N, Mahantassanapong U, Vathesatogkit P, Kitiyakara C, Sritara P, Chattipakorn N, Chattipakorn SC. Cognitive impairment is associated with mitochondrial dysfunction in peripheral blood mononuclear cells of elderly population. Sci Rep. 2020;10(1):21400 (Impact factor = 3.99, Q1)
28. Saiyasit N, Chunchai T, Jaiwongkam T, Kerdphoo S, **Apaijai N**, Pratchayasakul W, Sripetchwandee J, Chattipakorn N, Chattipakorn SC. Neurotensin receptor 1 agonist provides neuroprotection in pre-diabetic rats. J Endocrinol. 2020. (Impact factor = 4.041, Q1)
29. Patel AMR, **Apaijai N**, Chattipakorn N, Chattipakorn S. The protective and reparative role of colony stimulating factors in the brain with cerebral ischemia / reperfusion injury. Neuroendocrinology. 2020 (Impact factor = 4.271, Q1)
30. Liao S, **Apaijai N**, Chattipakorn N, Chattipakorn SC. The possible roles of necroptosis during cerebral ischemia and ischemia / reperfusion injury. Arch Biochem Biophys. 2020; 695: 1086 (Impact factor =3.391, Q1)
31. Sumneang N, **Apaijai N**, Chattipakorn SC, Chattipakorn N. Myeloid Differentiation Factor 2 in the Heart: Bench to bedside evidence for potential clinical benefits? Pharmacol Res. 2020; 105239 (Impact factor =5.893, Q1)
32. Soontornpun A, Manoyana N, **Apaijai N**, Pinyopornpanish K, Pinyopornpanish K, Nadsasarn A, Tanprawate S, Chattipakorn N, Chattipakorn SC. Influenza immunization does not predominantly alter levels of phenytoin, and cytochrome P-450 enzymes in epileptic patients receiving phenytoin monotherapy. Epilepsy Res. 2020; 167: 106471. (Impact factor = 2.208, Q2)
33. Surinkaew P*, **Apaijai N***, Sawaddiruk P, Jaiwongkam T, Kerdphoo S, Chattipakorn N, Chattipakorn SC. Mitochondrial fusion promoter alleviates brain damage in rats with cardiac ischemia/reperfusion injury. J Alzheimers Dis. 2020; 77(3): 993-1003 (Impact factor = 3.909, Q1)
    ** These authors contribute equally to this work*
34. Leech T*, **Apaijai N***, Palee S, Higgins LA, Maneechote C, Chattipakorn N, Chattipakorn SC. Acute administration of metformin prior to cardiac ischemia/reperfusion injury protects brain injury. Eur J Pharmacol. 2020; 885: 173418 (Impact factor = 3.263, Q1)
    ** These authors contribute equally to this work*

35. Chunchai T, Keawtep P, Arinno A, Saiyasit N, Prus D, **Apaijai N**, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. A combination of an antioxidant with a prebiotic exerts greater efficacy than either as a monotherapy on cognitive improvement in castrated-obese male rats. Metab Brain Dis. 2020 (in press) (Impact factor =2.74, Q1)
36. Benjanuwattra J, **Apaijai N**, Chunchai T, Kerdphoo S, Jaiwongkam T, Arunsak B, Wongsuchai S, Chattipakorn N, Chattipakorn SC. Metformin preferentially provides neuroprotection following cardiac ischemia/reperfusion in non-diabetic rats. Biochim Biophys Acta Mol Basis Dis. 2020; 1866(10): 165893. (Impact factor = 4.352, Q1)
37. Lahnwong S, Palee S, **Apaijai N**, Sriwichaiin S, Kerdphoo S, Jaiwongkam T, Chattipakorn SC, Chattipakorn N. Acute dapagliflozin administration exerts cardioprotective effects in rats with cardiac ischemia/reperfusion injury. Cardiovasc Diabetol. 2020; 19(1): 91. (Impact factor = 7.332, Q1)
38. Arinno A, **Apaijai N**, Chattipakorn SC, Chattipakorn N. The roles of resveratrol on cardiac mitochondrial function in cardiac diseases. Eur J Nutr. 2020 (in press). (Impact factor = 4.449, Q1)
39. Wittayachamnankul B, **Apaijai N**, Sutham K, Chenthanakij B, Liwsrisakun C, Jaiwongkam T, Chattipakorn SC, Chattipakorn N. High central venous oxygen saturation is associated with mitochondrial dysfunction in septic shock: A prospective observational study. J Cell Mol Med. 2020; 24(11): 6485-6494. (Impact factor = 4.658, Q1)
40. Jinawong K*, **Apaijai N***, Wongsuchai S, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. Necrostatin-1 Mitigates Cognitive Dysfunction in Prediabetic Rats With no Alteration in Insulin Sensitivity. Diabetes. 2020; 69(7): 1411-1423. (Impact factor =7.720, Q1)
    ** These authors contribute equally to this work*
41. Saiyasit N, Chunchai T, **Apaijai N**, Pratchayasakul W, Sripetchwandee J, Chattipakorn N, Chattipakorn SC. Chronic high-fat diet consumption induces an alteration in plasma/brain neurotensin signaling, metabolic disturbance, systemic inflammation/oxidative stress, brain apoptosis, and dendritic spine loss. Neuropeptides. 2020: 102047. (Impact factor =2.407, Q1)
42. Maneechote C, Palee S, **Apaijai N**, Kerdphoo S, Jaiwongkam T, Chattipakorn SC, Chattipakorn N. Mitochondrial dynamic modulation exerts cardiometabolic protection in obese insulin-resistant rats. Clin Sci (Lond). 2019;133(24):2431-2447. (Impact factor = 5.237, Q1)
43. Saiyasit N, Chunchai T, Prus D, Suparan K, Pittayapong P, **Apaijai N**, Pratchayasakul W, Sripetchwandee J, Chattipakorn N, Chattipakorn SC. Gut dysbiosis develops before metabolic disturbance and cognitive decline in high-fat diet-induced obese condition. Nutrition. 2019; 69: 110576. (Impact factor = 3.591, Q1)
44. Thonusin C, **Apaijai N**, Jaiwongkam T, Kerdphoo S, Arunsak B, Amput P, Palee S, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. The comparative effects of high dose atorvastatin and proprotein convertase subtilisin/kexin type 9 inhibitor on the

mitochondria of oxidative muscle fibers in obese-insulin resistant female rats. Toxicol Appl Pharmacol. 2019; 382: 114741 (Impact factor = 3.585, Q1)

45. Sawaddiruk P, **Apaijai N**, Paiboonworachat S, Kaewchur T, Kasitanon N, Jaiwongkam T, Kerdphoo S, Chattipakorn N, Chattipakorn SC. Coenzyme Q10 supplementation alleviates pain in pregabalin-treated fibromyalgia patients via reducing brain activity and mitochondrial dysfunction. Free Radic Res. 2019: 1-9 (Impact factor = 2.825, Q2)
46. Chunchai T, Keawtep P, Arinno A, Saiyasit N, Prus D, **Apaijai N**, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. N-acetyl cysteine, inulin and the two as a combined therapy ameliorate cognitive decline in testosterone-deprived rats. Aging (Albany NY). 2019; 11(11): 3445-3462. (Impact factor = 5.515, Q1)
47. Keawtep P, Pratchayasakul W, Arinno A, **Apaijai N**, Chunchai T, Kredphoo S, Jaiwongkum T, Chattipakorn N, Chattipakorn SC. Combined dipeptidyl peptidase-4 inhibitor with low-dose testosterone exerts greater efficacy than monotherapy on improving brain function in orchiectomized obese rats. Exp Gerontol. 2019; 123: 45-56. (Impact factor = 3.224, Q2)
48. Sivasinprasan S, Palee S, Chattipakorn K, Jaiwongkam T, **Apaijai N**, Pratchayasakul W, Chattipakorn S, Chattipakorn N. N-acetylcysteine with low-dose estrogen reduces cardiac ischemia-reperfusion injury. J Endocrinol. 2019; 242(2): 37-50 (Impact factor = 4.012, Q1)
49. **Apaijai N***, Moisescu DM*, Palee S, McSweeney CM, Saiyasit N, Maneechote C, Boonnag C, Chattipakorn N, Chattipakorn SC. Pretreatment with PCSK9 inhibitor protects the brain against cardiac ischemia/reperfusion injury through a reduction of neuronal inflammation and amyloid beta aggregation. J Am Heart Assoc 2019; 8 (22): e010838 (Impact factor = 4.450, Q1). * *These authors contribute equally to this work*
50. Arinno A*, **Apaijai N***, Kaewtep P, Pratchayasakul W, Jaiwongkam T, Kerdphoo S, Chattipakorn S, Chattipakorn N. Combined low-dose testosterone and vildagliptin confers cardioprotection in castrated obese rats. J Endocrinol. 2019: JOE-18-0673. (Impact factor = 4.012, Q1) * *These authors contribute equally to this work*
51. Chunchai T, **Apaijai N**, Keawtep P, Mantor D, Arinno A, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. Testosterone deprivation intensifies cognitive decline in obese male rats via glial hyperactivity, increased oxidative stress, and apoptosis in both hippocampus and cortex. Acta Physiol (Oxf). 2018; 226(1): e13229 (Impact factor = 5.93, Q1)
52. **Apaijai N**, Arinno A, Palee S, Pratchayasakul W, Kerdphoo S, Jaiwongkam T, Chunchai T, Chattipakorn SC, Chattipakorn N. High-saturated fat high-sugar diet accelerates left-ventricular dysfunction faster than high-saturated fat diet alone via increasing oxidative stress and apoptosis in obese-insulin resistant rats. Mol Nutr Food Res 2018: e1800729 (Impact factor = 5.151, Q1)

53. Singhanat K, **Apaijai N**, Chattipakorn SC, Chattipakorn N. Roles of melatonin and its receptors in cardiac ischemia-reperfusion injury. Cell Mol Life Sci 2018; 75(22): 4125-4149 (Impact factor = 6.721, Q1)
54. Surinkaew P, Sawaddiruk P, **Apaijai N**, Chattipakorn N, Chattipakorn SC. Role of microglia under cardiac and cerebral ischemia/reperfusion (I/R) injury. Metab Brain Dis 2018; 33(4): 1019-1030 (Impact factor = 2.441, Q2)
55. **Apaijai N**, Chunchai T, Jaiwongkam T, Kerdphoo S, Chattipakorn SC, Chattipakorn N. Testosterone deprivation aggravates left-ventricular dysfunction in male obese-insulin resistant rats via impairing cardiac mitochondrial function and dynamics proteins. *Gerontology* 2018; 64(4): 333-343 (Impact factor = 3.532, Q1)
56. Khuankaew C, **Apaijai N**, Sawaddiruk P, Jaiwongkam T, Kerdphoo S, Pongsiriwet S, Tassaneeyakul W, Chattipakorn N, Chattipakorn SC. Effect of coenzyme Q10 on mitochondrial respiratory proteins in trigeminal neuralgia. *Free Radic Res* 2018;52(1):70-79. (Impact Factor = 3.038, Q2)
57. Bo-Htay C, Palee S, **Apaijai N**, Chattipakorn SC, Chattipakorn N. Effects of D-galactose induced ageing on the heart and its potential interventions. *J Cell Mol Med* 2018; 22 (3): 1392-1410. (Impact Factor = 4.302, Q1)
58. Ittichaichareon J, **Apaijai N**, Takajak P, Sa-nguanmoo P, Chattipakorn N, Chattipakorn SC. Dipeptidyl peptidase-4 inhibitor enhances restoration of salivary glands impaired by obese-insulin resistance. Arch Oral Biol 2018; 85: 148-153 (Impact Factor = 2.050, Q2)
59. **Apaijai N**, Charoenphandhu N, Ittichaichareon J, Suntornsaratoon P, Krishnamra N, Aeimlapa R, Chattipakorn SC, Chattipakorn N. Estrogen deprivation aggravates cardiac hypertrophy in non-obese type 2 diabeticGoto-kakizaki (GK) rats. Biosci Rep 2017; 37: 5 (Impact Factor = 2.899, Q1)
60. Weerateerangkul P, Shinlapawittayatorn K, Palee S, **Apaijai N**, Chattipakorn SC, Chattipakorn N. Early testosterone replacement attenuates intracellular calcium dyshomeostasis in the heart of testosterone-deprived male rats. Cell Calcium 2017; 67: 22-30 (Impact Factor = 3.718, Q1)
61. Pintana H*, **Apaijai N***, Kerdphoo S, Suntornsaratoon P, Charoenphandhu N, Chattipakorn N, Chattipakorn SC. Hyperglycemia induced the Alzheimer's proteins and promoted loss of synaptic levels in advanced-age female Goto-Kakizaki (GK) rats. Neurosci Lett. 2017; 655: 41-45 (Impact Factor = 2.159, Q3)
** These authors contribute equally to this work*
62. Tunapong W*, **Apaijai N*,** Yasom S, Tanajak P, Wanchai K, Chunchai T, Kerdphoo S, Eaimworawuthikul S, Thiennimitr P, Pongchaidecha A, Lungkaphin A, Pratchayasakul W, Chattipakorn SC, Chattipakorn N. Chronic treatment with prebiotics, probiotics and synbiotics attenuated cardiac dysfunction by improving cardiac mitochondrial dysfunction in male obese insulin-resistant rats. Eur J Nutr. 2018; 57(6): 2091-2104 (Impact Factor = 4.423, Q1)
** These authors contribute equally to this work*

63. Tanajak P, Sa-Nguanmoo P, **Apaijai N**, Wang X, Liang G, Li X, Jiang C, Chattipakorn SC, Chattipakorn N. Comparisons of cardioprotective efficacy between fibroblast growth factor 21 and dipeptidyl peptidase-4 inhibitor in pre-diabetic rats. Cardiovas Ther. 2017; 35: 4 (Impact Factor = 2.245, Q2)
64. Ittichaichareon J**, Apaijai N**, Tanajak P, Sa-nguanmoo P, Chattipakorn N, Chattipakorn SC. Impaired Mitochondria and Intracellular Calcium Transients in the Salivary Glands of Obese Rats. *Appl Physiol Nutr Metab*. 2017; 42: 420-429 (Impact Factor =2.518, Q1)
65. Tanajak P, Pintana H, Siri-Angkul N, Khamseekaew J, **Apaijai N**, Chattipakorn SC, Chattipakorn N. Vildagliptin and caloric restriction for cardioprotection in pre-diabetic rats. *J Endocrinol*. 2017; 232: 189-204 (Impact Factor = 4.012, Q1)
66. Sarasamkan J, Scheunemann M, **Apaijai N**, Palee S, Parichatikanond W, Arunrungvichian K, Fischer S, Chattipakorn S, Deuther-Conrad W, Schuumann G, Brust P, Vajragupta O. Varying charity across nicotinic acetylcholine receptor subtypes-selective binding of quinuclidine triazole compound. *ACS Med Chem Lett*. 2016; 7: 890-895 (Impact Factor =3.794, Q1)
67. Charununtakorn ST, **Apaijai N**, Kerdphoo S, Shinlapawittayatorn K, Chattipakorn SC, Chattipakorn N. Humanin exerts cardioprotection against cardiac ischemia-reperfusion injury through attenuation of mitochondrial dysfunction. *Cardiovasc Ther.* 2016; 404-414 (Impact Factor =2.245, Q1)
68. Palee S, **Apaijai N**, Shinlapawittayatorn K, Chattipakorn SC, Chattipakorn N. Acetylcholine attenuates hydrogen peroxide-induced intracellular calcium dyshomeostasis through both muscarinic and nicotinic receptors in cardiomyocytes. *Cell Physiol Biochem.* 2016; 39: 341-9 (Impact Factor =5.5, Q2)
69. Nanegrungsunk D, **Apaijai N**, Yarana C, Sripetchwandee J, Limpastan K, Watcharasaksilp W, Vaniyapong T, Chattipakorn N, Chattipakorn SC. Bevacizumab is superior to temozolomide in causing mitochondrial dysfunction in human brain tumors. *Neurol Res.* 2016; 38: 285-93 (Impact Factor =1.449, Q2)
70. **Apaijai N**, Inthachai T, Lekawanvijit S, Chattipakorn S, Chattipakorn N. Effects of dipeptidyl peptidase-4 inhibitor in insulin resistant rats with myocardial infarction. *J Endocrinol.* 2016; 229: 245-58 (Impact Factor = 4.012, Q1)
71. Inthachai T, Lekawanvijit S, Kumfu S, **Apaijai N**, Pongkan W, Chattipakorn SC, Chattipakorn N. Dipeptidyl peptidase-4 inhibitor improves cardiac function by attenuating adverse cardiac remodeling in rats with chronic myocardial infarction. *Exp Physiol.* 2015; 100: 667-79 (Impact Factor =2.732, Q2)
72. Pintana H, Sripetchwandee J, Supakul L, **Apaijai N**, Chattipakorn N, Chattipakorn S. Garlic extract attenuates brain mitochondrial dysfunction and cognitive deficit in obese-

insulin resistant rats. *Appl Physiol NutrMetab.* 2014; 39: 1373-9 (Impact Factor = 2.518, Q1)

73. **Apaijai N**, Chattipakorn SC, Chattipakorn N. Roles of obese-insulin resistance and anti-diabetic drugs on the heart with ischemia-reperfusion injury. *Cardiovasc Drugs Ther.* 2014; 28: 549-62 (Impact Factor = 2.771, Q1)
74. **Apaijai N**, Chinda K, Palee S, Chattipakorn S, Chattipakorn N. Combined vildagliptin and metformin exert better cardioprotection than monotherapy against ischemia-reperfusion injury in obese-insulin resistant rats. *PLoS One.* 2014; 9: e102374 (Impact Factor = 2.766, Q1)
75. Supakul L, Pintana H, **Apaijai N**, Chattipakorn S, Chattipakorn N. Protective effects of garlic extract on cardiac function, heart rate variability, and cardiac mitochondria in obese insulin-resistant rats. *Eur J Nutr.* 2014; 53: 919-28 (Impact Factor =4.423, Q1)
76. Pintana H, **Apaijai N**, Chattipakorn N, Chattipakorn SC. DPP-4 inhibitors improve coginition and brain mitochondrial function of insulin-resistant rats. *J Endocrinol.* 2013; 218: 1-11 (Impact Factor =4.012, Q1)
77. **Apaijai N**, Pintana H, Chattipakorn SC, Chattipakorn N. Effects of vildagliptin versus sitagliptin, on cardiac function, heart rate variability, and mitochondrial function in obese insulin-resistant rats. *Br J Pharmacol.* 2013; 169: 1048-57 (Impact Factor =6.81, Q1)
78. Pintana H, **Apaijai N**, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. Effects of metformin on learning and memory behaviors and brain mitochondrial functions in high fat diet induced insulin resistant rats. *Life Sci.* 2012; 91: 409-14 (Impact Factor =3.234, Q1)
79. **Apaijai N**, Pintana H, Chattipakorn SC, Chattipakorn N. Cardioprotective effects of metformin and vildagliptin in adult rats with insulin resistance induced by a high-fat diet. *Endocrinology.* 2012; 153: 3878-85 (Impact Factor =3.961, Q1)
80. Wongchareon W, Jai-Aue S, Phrommintikul A, Nawarawong W, Woragidpoonpol S, Thepsuwan T, Sukonthasarn A, **Apaijai N**, Chattipakorn N. Effects of curcuminoids on frequency of acute myocardial infarction after coronary artery bypass grafting. *Am J Cardiol.* 2012; 110: 40-4 (Impact Factor =3.171, Q1)

EDITORIAL COMMENTS

1. Chattipakorn N, **Apaijai N**, Chattipakorn SC. Dipeptidyl peptidase-4 inhibitors and ischemic heart: Additional benefits beyond glycemic control. *Int J Cardiol* 2016;202: 415-416. (Impact Factor =4.034, Q1)

PEER REVIEWED ABSTRACTS

1. **Apaijai N**, Vongsfak J, Singhanat K, Arunsak B, Samneong N, Maneechote C, Chunchai T, Chattipakorn SC, Chattipakorn N. Myeloid differentiation factor 2 inhibitor and N-acetyl cysteine synergistically reduced left ventricular dysfunction in rats with cardiac ischemia/reperfusion injury. Eur Heart J. 2022 (Impact Factor = 24.889, Q1)
2. Benjanuwattra J, **Apaijai N**, Chunchai T, Chattipakorn SC, Chattipakorn N. Temporal Relationship Between Erythropoietin Administration and Mitochondrial Dysfunction in Cardiac Ischemia/reperfusion Injury. Circulation. 2020 (Impact Factor = 23.6, Q1)
3. Sumneang N, Oo TT, Jaiwongkam T, Arunsak B, **Apaijai N**, Liang G, Chattipakorn SC, Chattipakorn N. Myeloid differentiation factor 2 inhibitor improves left ventricular function and heart rate variability via attenuating cardiac mitochondrial dysfunction in pre-diabetic rats. Circulation. 2020 (Impact Factor = 23.6, Q1)
4. **Apaijai N**, Singhanat K, Jaiwongkam T, Kerdphoo S, Chattipakorn SC, Chattipakorn N. A Single Dose of Melatonin Fails to Reduce Brain Damage Following Cardiac I/R Injury. *Alzheimers and Dementia*. 2020 (Impact Factor =12.74, Q1)
5. **Apaijai N**, Jinawong K, Singhanat K, Jaiwongkam T, Kerdphoo S, Chattipakorn SC, Chattipakorn N. Necroptosis inhibitor directly reduced left ventricular dysfunction in obese-insulin resistant rats, independent of the metabolic status. *Eur Heart J* 2020 (in press) (Impact Factor = 24.889, Q1)
6. Singhanat K, **Apaijai N**, Jaiwongkam T, Kerdphoo S, Chattipakorn SC, Chattipakorn N. Melatonin Membrane Receptor 2 Activation is a Key Determinant for Melatonin-Mediated Cardioprotection in Cardiac Ischaemia-Reperfusion Injury. *Eur Heart J* 2020 (in press) (Impact Factor = 24.889, Q1)
7. Jinawong K, **Apaijai N,** Jaiwongkam T, Kerdphoo S, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. Necroptosis inhibitor improves synaptic plasticity and cognitive function independent to the metabolic status in obese-insulin resistant rats. *Alzheimers and Dementia*. 2019 (Impact Factor =12.74, Q1)
8. Sawaddiruk P, **Apaijai N**, Kerdphoo S, Chattipakorn N, Chattipakorn SC. An alteration of gut microbiota is associated with pain in fibromyalgia patients: a pilot study. *J Physiol Sci*. 2019 (Impact Factor = 2.757, Q2).
9. Sriwichaiin S, **Apaijai N**, Jaiwongkam T, Kerdphoo S, Pratchayasakul W, Palee S, Phrommintikul A, Kitiyakara C, Sritara P, Chattipakorn N, Chattipakorn SC. Mitochondrial ATP-linked respiration in PBMCs is associated with cognition in aged EGAT population. *J Physiol Sci*. 2019 (Impact Factor = 2.757, Q2).
10. **Apaijai N**, Singhanat K, Jaiwongkam T, Chattipakorn N, Chattipakorn SC. Melatonin does not protect the brain against cardiac ischemia/reperfusion injury. *J Physiol Sci*. 2019 (Impact Factor = 2.757, Q2).

11. Wittayachamnankul B, **Apaijai N**, Chattipakorn SC, Chattipakorn N. Central venous oxygen saturation related with mitochondrial dysfunction in sepsis patients. *Ann Emerg Med*. 2018 (Impact Factor = 5.008, Q1)
12. Maneechote C, Palee S, **Apaijai N**, Jaiwongkam T, Kerdphoo S, Chattipakorn SC, Chattipakorn N. Mitochondrial fission inhibitor attenuates left ventricular dysfunction in pre-diabetic rats through improved mitochondrial respiration and decreased reactive oxygen species. *Eur Heart J.* 2018 (Impact Factor = 23.425, Q1)
13. **Apaijai N**, Arinno A, Kaewthep P, Chunchai T, Pratchayasakul W, Chattipakorn SC, Chattipakorn N. Combined low-dose testosterone and dipeptidyl peptidase 4 inhibitor shared similar cardioprotective effects as therapeutic dose in obese-insulin resistant rats with testosterone deprivation. *Eur Heart J.* 2018 (Impact Factor = 23.425, Q1)
14. **Apaijai N**, Moisescu DM, McSweeney C, Palee S, Maneechote C, Jaiwongkam T, Kerdphoo S, Chattipakorn N, Chattipakorn SC. PCSK9 inhibitor attenuates brain macrophage infiltration and reduces amyloid beta levels in rats with cardiac ischemia/reperfusion injury. *Alzheimers and Dementia*. 2018 (Impact Factor =12.74, Q1)
15. **Apaijai N**, Jaiwongkam T, Kerdphoo S, Chattipakorn SC, Chattipakorn N. High-fat High-carbohydrate diet accelerated cardiometabolic dysfunction faster than highfat diet alone in obese-insulin resistant rats. *J Physiol Sci* (Impact Factor = 2.757, Q2)
16. **Apaijai N,** Pintana H, Kerdphoo S, Suntornsaratoon P, Chareonphandhu N, Chattipakorn N, Chattipakorn SC. Hyperglycemia increased Alzheimer's related protein expression and promoted synaptic loss in advanced age non-obese type 2 diabetes Goto Kakizaki rats. *Alzheimers and Dementia*. 2017 (Impact Factor =12.74, Q1)
17. **Apaijai N**, Palee S, Chunchai T, Jaiwongkam T, Chattipakorn SC, Chattipakorn N. Lack of testosterone in obese-insulin resistant condition aggravates cardiometabolic dysfunction through the impairment of cardiac mitochondrial function. *J Am Coll Cardiol.* 2017; 69 (Suppl 21): P751 (Impact Factor =16.834, Q1)
18. Chattipakorn N, Tunapong W, Yasom S, Wanchai K, Chunchai T, Tanajak P, **Apaijai N**, Thiennimitr P, Sirilun S, Chaiyasut C, Pongchaidecha A, Lungkapin A, Pratchayasakul W, Chattipakorn SC. Combined prebiotics and probiotics treatment is not superior to single regimen for cardioprotection in obese-insulin resistant rats. *J Am Coll Cardiol* 2017;69 (Suppl 21):P1067 (Impact Factor =16.834, Q1)
19. **Apaijai N**, Chareonphandhu N, Ittichaichareon J, Suntornsaratoon P, Krishnamra N, Aeimlapa R, Chattipakorn SC, Chattipakorn N. Estrogen deprivation aggravates adverse left ventricular remodeling in type 2 diabetic rats. *Endocr Rev.* 2016; P194 (Impact Factor =15.545, Q1)
20. Pongkan W, Pintana H, Sivasinprasan S, **Apaijai N**, Kumfu S, Jaiwongkam T, Chattipakorn S, Chattipakorn N. Testosterone deprivation accelerates cardiac dysfunction and cardiac mitochondrial impairments in obese-insulin resistant rats. *Eur Heart J.* 2015; 36 (Impact Factor =23.425, Q1)

21. **Apaijai N**, Lekawanvijit S, Chattipakorn SC, Chattipakorn N. Dipeptidyl peptidase-4 inhibitor exerts better cardioprotection than enalapril against late-phase left ventricular remodeling after myocardial infarction in obese-insulin resistant rats. *Eur Heart J*. 2015; 36 (Impact Factor =23.425, Q1)
22. **Apaijai N,** Sanit J, Chinda K, Palee S, Chattipakorn S, Chattipakorn N. Combined metformin and vildagliptin therapy provides cardioprotection against ischemia-reperfusion injury in obese-insulin resistant rats by attenuating cardiac mitochondrial dysfunction. *J Am Coll Cardiol*. 2014; 63(12_S) (Impact Factor =16.834, Q1)
23. Chattipakorn SC, Pintana H, Sripetchwandee J, **Apaijai N**, Supakul L, Chattipakorn N. Garlic extract restores brain mitochondrial function and attenuates cognitive impairment in obese-insulin resistant rats. *Endocr Rev*. 2014 (Impact Factor =15.545, Q1)
24. Sa-nguanmoo P, Pratchayasakul W, Pintana H, Sripetchwandee J, Sivasinprasasn S, Kumfu S, **Apaijai N**, Sanit J, Chattipakorn N, Chattipakorn SC. Obesity with estrogen deprivation accelerates brain insulin resistance and aggravates brain mitochondrial dysfunction. *Endocr Rev*. 2014 (Impact Factor =15.545, Q1)
25. Semaming Y, Sanit J, Kumfu S, **Apaijai N**, Pongkan W, Inthachai T, Chattipakorn SC, Chattipakorn N. Protective effects of protocatechuic acid on cardiac function, heart rate variability, and cardiac mitochondrial function in streptozotocin-induced diabetic rats. *Endocr Rev*. 2014 (Impact Factor =15.545, Q1)
26. Pintana H, Pongkan W, Sripetchwandee J, Pratchayasakul W, **Apaijai N**, Chattipakorn N, Chattipakorn SC. Testosterone deprivation without obesity does not cause brain insulin resistance and brain mitochondrial dysfunction in orchiectomized rats. *Endocr Rev*. 2014 (Impact Factor =15.545, Q1)
27. **Apaijai N,** Pintana H, Chattipakorn SC, Chattipakorn N. Comparative efficacy of Dipeptidyl peptidase-4 (DPP-4) inhibitors on cardiac function, heart rate variability, and cardiac mitochondrial function in obese-insulin resistant rats. *Endocr Rev*. 2013 (Impact Factor =15.545, Q1)
28. **Apaijai N**, Chattipakorn SC, Chattipakorn N. Dipeptidyl peptidase-4 (DPP-4) inhibitor preserves cardiac function and heart rate variability and prevents cardiac mitochondrial dysfunction in high fat-induced insulin resistant rats. *Cardiovasc Res*. 2012 (Impact Factor =6.29, Q1)

CONFERENCE PROCEEDING, SHORT PAPERS AND ABSTRACTS

1. **Apaijai N**, Sanit J, Chinda K, Palee S, Chattipakorn S, Chattipakorn N. Combined metformin and vildagliptin therapy provides cardioprotection against ischemia-reperfusion injury in high-fat diet induced obese insulin resistant rats. The 43rd Annual Scientific Meeting of the Physiology Society of Thailand, Bangkok, Thailand, 2014.
2. **Apaijai N**, Sanit J, Chinda K, Chattipakorn SC, Chattipakorn N. Effects of DPP-4 inhibitor on cardiac function and mitochondrial function during ischemia/reperfusion injury. Thailand Research Fund: Senior Research Scholar Meeting 2013 Professor Dr. NiponChattipakorn. 2013
3. **Apaijai N**, Pintana H, Chattipakorn SC, Chattipakorn N. Effects of metformin on cardiac function in high-fat diet induced insulin resistant rats. Proceeding to the 1stAsean plus three graduate research congress, Chiang Mai, Thailand. 2012 (Outstanding oral presentation by M.Sc. student)
4. **Apaijai N,** Pintana H, Chattipakorn SC, Chattipakorn N. Effects of Vildagliptin in Long-term High-Fat diet Consumption Induced Insulin Resistant Rats. The 41st Annual Scientific Meeting of the Physiology Society of Thailand, Bangkok, Thailand, 2012.
5. Pintana H, **Apaijai N**, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. Effect of Metformin on Learning Behaviors and Brain Mitochondrial Functions With 12-Week High Fat Diet Induced Insulin Resistant Rats. The 41st Annual Scientific Meeting of the Physiology Society of Thailand, Bangkok, Thailand, 2012.
6. Pintana H, **Apaijai N**, Chattipakorn N, Chattipakorn SC. The Effects of Metformin on Learning and Memory Behaviors with High-Fat Diet induced Insulin Resistant Rats. The First ASEAN Plus Three Graduate Research Congress (AGRC), Chiang Mai, Thailand, 2012

BOOK CHAPTER

1. **Apaijai N**, Chattipakorn SC, Chattipakorn N. The roles of testosterone in cardiac ischemia/reperfusion injury. In: Sex differences in heart disease. (ISBN 978-3-030-586775-) (Year 2020)
2. **Apaijai N**, Pratchayasakul W, Chattipakorn N, Chattipakorn SC. Mitochondrial link between the metabolic syndrome and pre-Alzheimer's disease. In: Alzheimer's Disease the 21st Century Challenge. Intech open. (ISBN 978-953-51-6097-7) (Year 2018).