Curriculum Vitae

Chanisa Thonusin, MD, PhD, FRCPT

Office Address: Cardiac Electrophysiology Research and Training Center
Faculty of Medicine, Chiang Mai University
110 Intrawaroros Road
Sriphum, Mueang District, Chiang Mai 50200
Thailand
Phone : 00 66 53 935329
Fax : 00 66 53 935368
E-mail : chanisa.t@cmu.ac.th

EDUCATION

1998-2001	The Prince Royal's College, Chiang Mai, Thailand
2001-2007	Doctor of Medicine (First-class honors and Academic Gold Medal Award), Faculty of Medicine, Chiang Mai, Thailand
2007-2008	Intern, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand
2008-2011	Certificate program in Clinical Sciences in Medicine, Chiang Mai University, Chiang Mai, Thailand
2008-2011	Resident of Internal Medicine, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand
2012-2014	Ph.D. pre-candidate of Molecular and Integrative Physiology, University of Michigan Medical School, Ann Arbor, Michigan, USA

2014-2017 Ph.D. candidate of Molecular and Integrative Physiology, University of Michigan Medical School, Ann Arbor, Michigan, USA

2015-2017 Certificate program in Advanced Metabolic Endocrinology, Metabolic Medical Institute, Boca Raton, Florida, USA

2017-2018 Postdoctoral fellow at Division of Metabolism, Endocrinology and Diabetes, Department of Internal Medicine, University of Michigan Medical School, Ann Arbor, Michigan, USA

HONORS AND AWARDS

1999 Academic Award for outstanding student, The Prince Royal's College, Chiang Mai, Thailand

2000 Academic Award for outstanding student, The Prince Royal's College, Chiang Mai, Thailand

2001 Academic Award for outstanding student, The Prince Royal's College, Chiang Mai, Thailand

2001 Best Student Award in Academic Performance, The Prince Royal's College, Chiang Mai, Thailand

2001 Student Award in Service Performance, The Prince Royal's College, Chiang Mai, Thailand

2002 Academic Medal Award for outstanding first year medical student, Chiang Mai University, Chiang Mai, Thailand

2003 Best Student Award in Academic Performance for second year medical student, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

2003 Academic Medal Award for outstanding second year medical student, Chiang Mai University, Chiang Mai, Thailand

2004 Academic Medal Award for outstanding third year medical student, Chiang Mai University, Chiang Mai, Thailand

2005 Award for the best medical student in Radiology, Chiang Mai University, Chiang Mai, Thailand

2005 Academic Medal Award for outstanding fourth year medical student, Chiang Mai University, Chiang Mai, Thailand

2006 Academic Medal Award for outstanding fifth year medical student, Chiang Mai University, Chiang Mai, Thailand

2007 Academic Medal Award for outstanding sixth year medical student, Chiang Mai University, Chiang Mai, Thailand

2007 First-class honors and Academic Gold Medal Award of Doctor of Medicine, Chiang Mai University, Chiang Mai, Thailand.

2011 Distinguished Research Award ("The Prevalence of weight maintenance and factors that prevent weight regain after successful weight loss"), Department of Internal Medicine, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

2019 Registration Reimbursement Award ("Effects of PCSK9 inhibitor and atorvastatin on mitochondria of red muscle fibers in obesity" at 9th Federation of the Asian and Oceanian Physiological Societies Congress, Kobe, Japan

2022 International Travel Grant Award ("Blood Metabolomes as Non-Invasive Biomarkers and Targets of Metabolic Interventions for Doxorubicin- and Trastuzumab-Induced Heart Failure") at the American Heart Association Scientific Sessions 2022, Chicago, Illinois, USA

PROFESSIONAL APPOINTMENT

2012-2018 Lecturer, Department of Internal Medicine, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

2018-2020 Lecturer, Department of Physiology, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

2020-2022 Assistant professor, Department of Physiology, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

2022-present Associate professor, Department of Physiology, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

PROFESSIONAL DEGREES AND LICENSE

2017-present Ph.D.

2007-present M.D.

2011-present Thai Board of Internal Medicine

ORGANIZATION AND PARTICIPATION

2007-present Thai Medical Council

2011-present Royal College of Physicians of Thailand

PRESENTATIONS AT NATIONAL MEETINGS

April 2011 Poster presentation "The Prevalence of Weight Maintenance and Factors that Prevent Weight Regain After Successful Weight Loss" at 27th annual meeting of the Royal College of Physicians of Thailand, Pattaya, Thailand

August 2025 Oral presentation "The Effects of Melatonin, Acetylcholine Receptor Agonists, and Mitochondrial Dynamics Modulators on Cardiac Metabolic Reprogramming in Doxorubicin-Induced Cardiotoxicity: A Cardiac Metabolomics Study in Rats" at Chiang Mai University Research Summit 2025, Chiang Mai, Thailand.

PRESENTATIONS AT INTERNATIONAL MEETINGS

June 2016 Poster presentation "Effects of Intrinsic Oxidative Capacity (VO_2max) and Weight Loss on Age-Related Changes in Plasma Metabolite Levels" at 76th Scientific Sessions of American Diabetic Association, New Orleans, Louisiana

October 2016 Poster presentation "Effects of Intrinsic Oxidative Capacity (VO_2max) and Weight Loss on Skeletal Muscle and Plasma Metabolite Levels" at A. Alfred Taubman Medical Research Institute 9th Annual Symposium, Ann Arbor, Michigan

June 2017 Poster presentation "Effect of Intrinsic Oxidative Capacity (VO_2max) on Mitochondrial DNA and Metabolite Levels in Human Skeletal Muscle" at 77th Scientific Sessions of American Diabetic Association, San Diego, California

November 2017 Oral presentation "Evidence that High Oxidative Capacity is Associated with Slow Metabolic Aging in Humans" at Brehm Tower Summer Diabetes Symposium, Ann Arbor, Michigan

March 2019 Poster presentation "Effects of PCSK9 inhibitor and atorvastatin on mitochondria of red muscle fibers in obesity" at 9th Federation of the Asian and Oceanian Physiological Societies Congress, Kobe, Japan

June 2019 Poster presentation "Comparative Effects of PCSK9 Inhibitor and High-Dose Atorvastatin on Mitochondria of Red Muscle Fibers in Obese Female Rats" at 79th Scientific Sessions of American Diabetic Association, San Francisco, California

June 2020 Poster presentation "Comparative Effects of Atorvastatin, a Proprotein Convertase Subtilisin/Kexin Type 9 Inhibitor (PCSK9i), and Estrogen on Oxidative Muscle

Mitochondria in a Rat Model of Obesity with Menopause" at 80th Scientific Sessions of American Diabetic Association, Virtual meeting

June 2021 Poster presentation "The Effect of Exercise Capacity on Metabolic and Cardiac Aging in Normal and Obese Rats" at 81st Scientific Sessions of American Diabetic Association, Virtual meeting

April 2022 Poster presentation "High Cardiorespiratory Fitness Exerts Cardioprotection in Obese Rats Regardless of Lifestyle Modification" at 71st Annual Scientific Sessions of the American College of Cardiology, Washington, DC

June 2022 Poster presentation "High Cardiorespiratory Fitness Exerts Metabolic Protection in Obese Rats, Regardless of Caloric Restriction or Short-term Exercise" at 82nd Scientific Sessions of American Diabetic Association, New Orleans, Louisiana

November 2022 Poster presentation "Blood Metabolomes as Non-Invasive Biomarkers and Targets of Metabolic Interventions for Doxorubicin- and Trastuzumab-Induced Heart Failure" at American Heart Association Scientific Sessions 2022, Chicago, Illinois

June 2023 Poster presentation "Exercise and Caloric restriction Exert Different Benefits on Metabolism and Mechanical Function of Skeletal Muscle in Aging Condition" at 83rd Scientific Sessions of American Diabetic Association, San Diego, California

August 2023 Poster presentation "Melatonin Attenuates an Impairment of Metabolic Reprogramming in Doxorubicin-Induced Cardiotoxicity: Insights from Metabolomics Study in Rats" at European Society of Cardiology 2023, Amsterdam, Netherlands

August 2024 Oral presentation "Changes in Blood Metabolomes as Potential Biomarkers for Severity and Prognosis in Doxorubicin-Induced Heart Failure: A Study in HER2-Positive and HER2-Negative Breast Cancer Patients" at European Society of Cardiology 2024, London, United Kingdom

November 2025 Poster presentation "Mitochondrial Dynamics Modulators Promoted Favorable Patterns of Cardiac Metabolic Reprogramming in Doxorubicin-Induced Heart Failure" at American Heart Association Scientific Sessions 2025, New Orleans, Louisiana

INVITED LECTURES AT INTERNATIONAL MEETINGS

October 2021 The Parenteral and Enteral Nutrition Society of Asia (PENSA) 2021, Virtual meeting

September 2025 13th Joint Seminar on Biomedical Sciences. Chiang Mai, Thailand

INVITED LECTURES AT NATIONAL MEETINGS

October 2019	MED CMU 60th Anniversary Meeting "Now and Future in Health Care", Chiang Mai, Thailand
February 2022	Thai Metabolomics Society Webinar Series "MED x MET", Virtual meeting
January 2023	Research Trend in Cardiology, Chiang Mai University, Chiang Mai, Thailand
March 2023	The 17th National Neurologic and Cardiac Electrophysiology Symposium, Chiang Mai, Thailand
September 2023	Thailand Hub of Talents in Cancer Immunotherapy Webinar Series, Virtual meeting
May 2024	The 18th National Neurologic and Cardiac Electrophysiology Symposium, Chiang Mai, Thailand
July 2024	Oral and Maxillofacial Surgery CMU annual meeting, Chiang Mai, Thailand

ACADEMIC ACTIVITIES

Graduate Student's Dissertation Committees

1. Nonglak Boonchooduang, Member of the Doctoral Degree Committee
   Topic: Effects of Probiotics on Gut Microbiota Changes in Children with Attention-Deficit/Hyperactivity Disorder: a Double-Blind, Randomized, Placebo-Controlled Trial
2. Huatuo Huang, Member of the Doctoral Degree Committee
   Topic: The effects of Gestational Diabetes Mellitus and Obese Insulin Resistance on Brain Pathologies and Premature Brain Aging in Different Areas of the Brain of Mothers and Offspring in Rats
3. Bhumrapee Srivichit, Member of the Doctoral Degree Committee
   Topic: Effects of Melatonin and Metformin on Alveolar Bone Remodeling in Doxorubicin-Treated Rats
4. Patcharapong Pantiya, Member of the Doctoral Degree Committee
   Topic: The Correlation Between Cardiorespiratory Fitness and Brain Aging Induced by Chronic High-Fat Diet and D-Galactose, and the Effects of Caloric Restriction and Exercise on This Correlation in High-Fat Diet-Fed Rats and D-Galactose-Treated Rats
5. Napatsorn Imerb, Member of the Doctoral Degree Committee
   Topic: "Effects of Aging and Obesity on Bone Remodeling and Effects of Hyperbaric Oxygen Therapy on Bone Remodeling in D-Galactose Induced Aging Rats with and without Obesity"
6. Lingling Huang, Member of the Doctoral Degree Committee

Topic: “Effects of Insulin Therapy on Gut Microbiota of Gestational Diabetes Mellitus (GDM) and Their Newborns”

7. Patchareeya Amput, Member of the Doctoral Degree Committee
   Topic: “The Comparative Effects of Proprotein Convertase Subtilisin/kexin Type 9 (PCSK9) Inhibitor and Atorvastatin on Cardiac Function and in Obese-Insulin Resistant Female Rats with or without Estrogen Deprivation”
8. Busarin Arunsak, Member of the Master Degree Committee
   Topic: “The Comparative Effects of Proprotein Convertase Subtilisin/kexin Type 9 (PCSK9) Inhibitor and Atorvastatin on Brain Function and Cognitive Function in Obese-Insulin Resistant Female Rats”
9. Kewarin Jinawong, Member of the Master Degree Committee
   Topic: “The Effects of Necroptosis Inhibitor on Cognitive Function and Neuropathology in Obese-Insulin Resistant Rats Induced by High-Fat Diet Consumption”

Special Academic Appointments

2018-Present Graduate School Faculty, Chiang Mai University, Chiang Mai, Thailand

GRANT SUPPORT

October 2022-September 2025 Anandamahidol Foundation

RESEARCH GRANT SUPPORT

February 2025-January 2028 National Research Council of Thailand (PI)
Title “The Cardioprotective Effect of a Probiotic *Lactobacillus reuteri* KUB-AC5 in Obese Rats with and without Myocardial Ischemia/Reperfusion injury”

March 2022 – February 2024 National Research Council of Thailand (PI)
Title “The Predictive Effects of Cardiorespiratory Fitness on Sarcopenia, and the Modulating Effects of Caloric Restriction and Exercise on This Prediction in D-Galactose-Induced Premature Aging Rats”

December 2020 – December 2022 The Faculty of Medicine Endowment Fund for Research, Faculty of Medicine, Chiang Mai University (PI)
Title “Effects of cardiorespiratory fitness on brain aging in caloric-restricted rats after high fat diet-induced aging”

May 2020 – May 2022	The Faculty of Medicine Endowment Fund for Research, Faculty of Medicine, Chiang Mai University (PI) Title "Effects of cardiorespiratory fitness on brain aging in high fat diet-induced aging rats compared to normal rats"
March 2019 - February 2021	Thailand Science Research and Innovation (PI) Title "Effects of cardiorespiratory fitness on body weight and cardiometabolic features in obese versus non-obese rats, and on maintenance of body weight and cardiometabolic benefits after termination of caloric restriction- and exercise training-induced successful weight loss in obese rats"
January 2019 - January 2021	The Faculty of Medicine Endowment Fund for Research, Faculty of Medicine, Chiang Mai University (PI) Title "The comparative effects of proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitor and high dose atorvastatin on the mitochondria of oxidative muscle fibers in obese female rats with and without estrogen deprivation"

RESEARCH FIELDS OF INTEREST

1. Metabolomics
2. Metabolism
3. Cardiovascular disease
4. Cardiotoxicity
5. Obesity and insulin resistance
6. Aging
7. Skeletal muscle

PEER REVIEWED ARTICLES

1. Kunasol C, Maneechote C, Apaijai N, **Thonusin C**, Parbao C, Nawara W, Chattipakorn N, Chattipakorn SC. Dapagliflozin Enhances Gut Barrier Function in Rats with Chronic Myocardial Infarction by Modulating Gut Microbiota Balance. Annals of Translational Medicine 2025. In press.
2. Boonchooduang N, Louthrenoo O, Likhitweerawong N, Kunasol C, Nawara W, **Thonusin C**, Chattipakorn N, Chattipakorn SC. Gut Microbiota-Derived Short-Chain Fatty Acids and Sleep

Disturbances in Pediatric ADHD: Insights into Neurobiological Links and Treatment Implications. Pediatr Neurol. 2025 Nov;172:8-14.

3. Lu D, Maneechote C, **Thonusin C**, Tokuda M, Chattipakorn SC, Chattipakorn N. The Effects of Rare Sugar on Cardiometabolic Alterations: A Recent Update from Basic Science to Clinical Application. Eur J Nutr. 2025 Oct 27;64(8):307.
4. Pongsupasamit P, **Thonusin C**, Luewan S, Chattipakorn N, Chattipakorn SC. Beyond hormones: 3PM approach to vaginal microbiota dynamics in postmenopausal women. EPMA J. 2025 Apr 15;16(2):299-350.
5. Chunchai T, Pintana H, Kunasol C, Pantiya P, Arunsak B, Kerdphoo S, Nawara W, Donchada S, Apaijai N, Sripetchwandee J, **Thonusin C**, Chattipakorn N, Chattipakorn SC. Chronic High-Fat Diet Consumption Followed by Lipopolysaccharide Challenge Induces Persistent and Long-Lasting Microglial Priming, Mediates Synaptic Elimination via Complement C1q, and Leads to Behavioral Abnormalities in Male Wistar Rats. Acta Physiol (Oxf). 2025 Jun;241(6):e70060.
6. **Thonusin C**, Suparan K, Kunasol C, Lungruammit N, Nawara W, Arunsak B, Kerdphoo S, Kongkaew A, Songtrai S, Pintana H, Maneechote C, Pratchayasakul W, Kaewsuwan S, Chattipakorn N, Chattipakorn SC. Interruptins Extracted from Cyclosorus terminans Protect Gut Pathologies Induced by High-Fat Diet in Rats. Nutrients. 2025 Apr 20;17(8):1387.
7. **Thonusin C**, Khuanjing T, Nawara W, Chattipakorn SC, Chattipakorn N. Alpha-7 nicotinic and muscarinic acetylcholine receptor agonists promote a favorable pattern of cardiac metabolic reprogramming in doxorubicin-induced heart failure rats. Arch Biochem Biophys. 2025 Jul;769:110427.
8. Imerb N, Pantiya P, **Thonusin C**, Chanpaisaeng K, Chattipakorn N, Charoenphandhu N, Chattipakorn SC. Osteoprotective effects of lifestyle interventions against obesity-induced bone dyshomeostasis and bone loss in rats. J Endocrinol. 2025 Apr 23;265(2):e250023.
9. Huang Y, **Thonusin C**, Tokuda M, Chattipakorn N, Chattipakorn SC. The beneficial effects of D-allose and D-allulose on the brain under ischemic stroke and obese-insulin resistant conditions: evidence from in vitro to clinical studies. Metab Brain Dis. 2025 Mar 28;40(4):162.
10. Apaijai N, Attachaipanich T, Maneechote C, Pintana H, **Thonusin C**, Chunchai T, Pantiya P, Arunsak B, Kongkaew A, Chattipakorn N, Chattipakorn SC. Sodium-glucose cotransporter 2 inhibitor partially improves brain mitochondrial function, but does not mitigate cognitive impairment in rats with myocardial infarction. Biochim Biophys Acta Mol Basis Dis. 2025 Jun;1871(5):167809.
11. Kumfu S, Sripetchwandee J, **Thonusin C**, Maneechote C, Arunsak B, Chunchai T, Kongkaew A, Chattipakorn SC, Chattipakorn N. Mitochondrial dynamic modulators attenuate iron overload-

mediated cardiac toxicity via decreased mitochondrial fission, mitophagy/autophagy, and apoptosis in iron-overloaded rats. Arch Biochem Biophys. 2025 May:767:110354.

12. Huang H, Apaijai N, **Thonusin C**, Suntornsaratoon P, Chattipakorn N, Charoenphandhu N, Chattipakorn SC. Mothers with obesity and gestational diabetes did not induce brain pathologies or premature brain aging in their adolescent and early adult offspring in rats. Neuroscience. 2025 Jan 29:S0306-4522(25)00071-5.
13. Boonchooduang N, Louthrenoo O, Likhitweerawong N, Kunasol C, **Thonusin C**, Sriwichaiin S, Nawara W, Chattipakorn N, Chattipakorn SC. Impact of psychostimulants on microbiota and short-chain fatty acids alterations in children with attention-deficit/hyperactivity disorder. Sci Rep. 2025 Jan 24;15(1):3034.
14. Suparan K, Trirattanapa K, Piriyakhuntorn P, Sriwichaiin S, **Thonusin C**, Nawara W, Kerdphoo S, Chattipakorn N, Tantiworawit A, Chattipakorn SC. Exploring Alterations of Gut/Blood Microbes in Addressing Iron Overload-Induced Gut Dysbiosis and Cognitive Impairment in Thalassemia Patients. Sci Rep. 2024 Oct 23;14(1):24951.
15. Pintana H, Apaijai N, Chunchai T, **Thonusin C**, Saengmearnuparp T, Kongkaew A, Chattipakorn N, Chattipakorn SC. The comparative effects between long-term and short-term treatment of finasteride on anxiety-like and depression-like behavior in early senescent male rats. J Neurosci Res. 2024 Oct;102(10):e25389.
16. Puttawong D, Wejaphikul Karn, **Thonusin C**, Dejkhamron P, Chattipakorn N, Chattipakorn SC. Potential Role of Sleep Disturbance in the Development of Early Puberty: Past Clinical Evidence for Future Management. Pediatr Neurol. 2024 Sep 15;161:117-124.
17. Narongkiatikhun P, **Thonusin C**, Sriwichaiin S, Nawara W, Fanhchaksai K, Wongsarikan N, Kumfu S, Chattipakorn N, Chattipakorn SC. Alterations of plasma metabolomes and their correlations with immunogenicity in maintenance hemodialysis patients receiving different COVID-19 vaccine regimens. Physiol Rep. 2024 Aug;12(16):e70005.
18. Srivichit B, **Thonusin C**, Aeimlapa R, Arinno N, Chunchai T, Charoenphandhu N, Chattipakorn N, Chattipakorn SC. Melatonin and Metformin in Mitigating Doxorubicin Alveolar Bone Toxicity. J Dent Res. 2024 Aug;103(9):916-925.
19. Saengmearnuparp T, Pintana H, Apaijai N, Chunchai T, **Thonusin C**, Kongkaew A, Lojanapiwat B, Chattipakorn N, Chattipakorn SC. Long-term Treatment with a 5-Alpha-Reductase Inhibitor Alleviates Depression-like Behavior in Obese Male Rats. Behav Brain Res. 2024 Jul 18:115155.
20. Suparan K, Sriwichaiin S, **Thonusin C**, Sripetchwandee J, Khuanjing T, Maneechote C, Nawara W, Arunsak B, Chattipakorn N, Chattipakorn SC. Donepezil Ameliorates Gut Barrier Disruption in Doxorubicin-treated Rats. Food Chem Toxicol. 2024 May 15:114741.

21. **Thonusin C,** Osataphan N, Leemasawat K, Nawara W, Sriwichaiin S, Supakham S, Gunaparn S, Apaijai N, Somwangprasert A, Phrommintikul A, Chattipakorn SC, Chattipakorn N. Changes in Blood Metabolomes as Potential Markers for Severity and Prognosis in Doxorubicin-Induced Cardiotoxicity: A Study in HER2-Positive and HER2-Negative Breast Cancer Patients. J Transl Med. 2024 Apr 29;22(1):398.
22. Chunchai T, Chinchapo T, Sripetchwandee J, **Thonusin C**, Chattipakorn N, Chattipakorn SC. Lipopolysaccharide exacerbates depressive-like behaviors in obese rats through complement C1q-mediated synaptic elimination by microglia. Acta Physiol (Oxf). 2024 Mar 10:e14130.
23. Upaphong P, **Thonusin C**, Wanichthanaolan O, Chattipakorn N, Chattipakorn SC. Consequences of exposure to particulate matter on the ocular surface: Mechanistic insights from cellular mechanisms to epidemiological findings. Environ Pollut. 2024 Mar 15:345:123488.
24. Jinawong K, Piamsiri C, Apaijai N, Maneechote C, Arunsak B, Nawara W, **Thonusin C**, Pintana H, Chattipakorn N, Chattipakorn SC. Modulating Mitochondrial Dynamics Mitigates Cognitive Impairment in Rats with Myocardial Infarction. Curr Neuropharmacol. 2024 Jan 31.
25. **Thonusin C**, Pantiya P, Kongkaew A, Nawara W, Arunsak B, Sriwichaiin S, Chattipakorn N, Chattipakorn SC. Exercise and Caloric Restriction Exert Different Benefits on Skeletal Muscle Metabolism in Aging Condition. Nutrients. 2023 Dec 3;15(23):5004.
26. Pantiya P, **Thonusin C**, Chunchai T, Pintana H, Ongnok B, Nawara W, Arunsak B, Kongkaew A, Chattipakorn N, Chattipakorn SC. Long-term lifestyle intervention is superior to transient modification for neuroprotection in D-galactose-induced aging rats. Life Sci. 2023 Nov 6:334:122248.
27. Kumfu S, Sripetchwandee J, **Thonusin C**, Sumneang N, Maneechote C, Arunsak B, Chunchai T, Oo TT, Kongkaew A, Chattipakorn SC, Chattipakorn N. Ferroptosis inhibitor improves cardiac function more effectively than inhibitors of apoptosis and necroptosis through cardiac mitochondrial protection in rats with iron-overloaded cardiomyopathy. Toxicol Appl Pharmacol. 2023 Nov 15:479:116727.
28. Imerb N, **Thonusin C**, Pratchayasakul W, Chanpaisaeng K, Aeimlapa R, Charoenphandhu N, Chattipakorn N, Chattipakorn SC. Hyperbaric oxygen therapy exerts anti-osteoporotic effects in obese and lean D-galactose-induced aged rats. FASEB J. 2023 Nov;37(11):e23262.
29. Pantiya P, **Thonusin C***, Ongnok B, Chunchai T, Kongkaew A, Nawara W, Arunsak B, Chattipakorn N, Chattipakorn SC. Chronic D-galactose administration induces natural aging characteristics, in rat's brain and heart. Toxicology. 2023 Jun 15;492:153553.

    * Pantiya P and **Thonusin C** equally contribute to this article as co-first authors.

30. Thonusin C, Nawara W, Arinno A, Khuanjing T, Prathumsup N, Ongnok B, Chattipakorn SC, Chattipakorn N. Effects of melatonin on cardiac metabolic reprogramming in doxorubicin-induced heart failure rats: A metabolomics study for potential therapeutic targets. J Pineal Res. 2023 May 13:e12884.
31. Pantiya P, **Thonusin C**, Chunchai T, Ongnok B, Nawara W, Arunsak B, Chattipakorn N, Chattipakorn SC. Higher untrained fitness exerts a neuroprotection in Independence to caloric restriction or exercise in high-fat diet-induced obesity. Exp Neurol. 2023 Apr 17;365:114416.
32. **Thonusin C**, Nawara W, Khuanjing T, Prathumsup N, Arinno A, Ongnok B, Arunsak B, Sriwichaiin S, Chattipakorn SC, Chattipakorn N. Blood metabolomes as non-invasive biomarkers and targets of metabolic interventions for doxorubicin and trastuzumab-induced cardiotoxicity. Arch Toxicol. 2023 Feb;97(2):603-618.
33. Upaphong P, **Thonusin C**, Choovuthayakorn J, Chattipakorn N, Chattipakorn SC. The Possible Positive Mechanisms of Pirenoxine in Cataract Formation. Int. J. Mol. Sci. 2022 Aug 21;23(16):9431.
34. Sriwichaiin S, Thiennimitr P, **Thonusin C**, Sarichai P, Buddhasiri S, Kumfu S, Nawara W, Kittichotirut W, Fucharoen S, Chattipakorn N, Chattipakorn SC. Deferiprone has less benefits on gut microbiota and metabolites in high iron-diet induced iron overload thalassemic mice than in iron overload wild-type mice: A preclinical study. Life Sci. 2022 Aug 8;307:120871.
35. Pantiya P, **Thonusin C***, Sumneang N, Ongnok B, Chunchai T, Kerdphoo S, Jaiwongkam T, Arunsak B, Siri-Angkul N, Sriwichaiin S, Chattipakorn N, Chattipakorn SC. High Cardiorespiratory Fitness Protects against Molecular Impairments of Metabolism, Heart, and Brain with Better Protective Efficacy in Obesity-Induced Premature Aging. Endocrinol Metab. 2022 Aug;37(4):630-640.
    * Pantiya P and **Thonusin C** equally contribute to this article as co-first authors.
36. Huang L, Sililas P, **Thonusin C**, Tongsong T, Luewan S, Chattipakorn N, Chattipakorn SC. The Association between Gut Microbiota and Insulin Therapy in Women with Gestational Diabetes Mellitus. Can J Diabetes. 2022 May 31;S1499-2671.
37. Imerb N, **Thonusin C**, Pratchayasakul W, Arunsak B, Nawara W, Ongnok B, Aeimlapa R, Charoenphandhu N, Chattipakorn N, Chattipakorn SC. D-galactose-induced aging aggravates obesity-induced bone dyshomeostasis. Sci Rep. 2022 May 20;12(1):8580.
38. **Thonusin C**, Pantiya P, Sumneang N, Chunchai T, Nawara W, Arunsak B, Siri-Angkul N, Sriwichaiin S, Chattipakorn SC, Chattipakorn N. Effectiveness of High Cardiorespiratory Fitness in Cardiometabolic Protection in Prediabetic Rats. Mol Med. 2022 Mar 10;28(1):31.
39. Srivichit B, **Thonusin C**, Chattipakorn N, Chattipakorn SC. Impacts of bisphosphonates on the bone and its surrounding tissues: mechanistic insights into medication-related osteonecrosis of the jaw. Arch Toxicol 2022 May;96(5):1227-1255.

40. Imerb N, **Thonusin C**, Pratchayasakul W, Arunsak B, Nawara W, Aeimlapa R, Charoenphandhu N, Chattipakorn N, Chattipakorn SC. Hyperbaric oxygen therapy improves age induced bone dyshomeostasis in non-obese and obese conditions. Life Sci. 2022 Apr 15;295:120406.
41. Trongtrakul K, **Thonusin C***, Pothirat C, Chattipakorn SC, Chattipakorn N. Past Experiences for Future Applications of Metabolomics in Critically Ill Patients with Sepsis and Septic Shocks. Metabolites. 2021 Dec 21;12(1):1.
*Chattipakorn N and **Thonusin C** equally contribute to this article as co-corresponding authors.
42. Huang L, Sililas P, **Thonusin C**, Luewan S, Chattipakorn SC. Early gut dysbiosis could be an indicator of unsuccessful diet control in gestational diabetes mellitus. J Diabetes. 2021 Dec;13(12):1054-1058.
43. Likhitweerawong N, **Thonusin C**, Boonchooduang N, Louthrenoo O, Nookaew I, Chattipakorn N, Chattipakorn SC. Profiles of urine and blood metabolomics in autism spectrum disorders. Metab Brain Dis. 2021 Oct;36(7):1641-1671.
44. Nantasupha C, **Thonusin C***, Charoenkwan K, Chattipakorn SC, Chattipakorn N. Metabolic reprogramming in epithelial ovarian cancer. Am J Transl Res 2021 Sep 15;13(9):9950-9973.
*Chattipakorn N and **Thonusin C** equally contribute to this article as co-corresponding authors.
45. Sililas P, Huang L, **Thonusin C**, Luewan S, Chattipakorn N, Chattipakorn SC, Tongsong T. Association between gut microbiome and development of gestational diabetes mellitus. Microorganisms 2021 Aug 8;9(8):1686.
46. **Thonusin C**, Chattipakorn SC, Chattipakorn N. Staying fit and the obese aging heart condition. Aging (Albany NY). 2021 May 13;13(10):13374-13375.
47. Huang L, **Thonusin C**, Chattipakorn N, Chattipakorn SC. Impacts of gut microbiota on gestational diabetes mellitus: a comprehensive review. Eur J Nutr. 2021 Aug;60(5):2343-2360.
48. Imerb N, **Thonusin C**, Chattipakorn N, Chattipakorn SC. Aging, obese-insulin resistance, and bone remodeling. Mech Ageing Dev. 2020 Aug 25;191:111335.
49. Pantiya P, **Thonusin C**, Chattipakorn N, Chattipakorn SC. Mitochondrial abnormalities in neurodegenerative models and possible interventions: Focus on Alzheimer's disease, Parkinson's disease, Huntington's disease. Mitochondrion. 2020 Aug 20;55:14-47.
50. Amput P, Palee S, Arunsak B, Pratchayasakul W, **Thonusin C**, Kerdphoo S, Jaiwongkam T, Chattipakorn SC, Chattipakorn N. PCSK9 inhibitor and atorvastatin reduce cardiac impairment in ovariectomized prediabetic rats via improved mitochondrial function and Ca2+ regulation. J Cell Mol Med. 2020 Jul 6;24(16):9189–203.
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