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RESEARCH CLUSTER – CHULALONGKORN UNIVERSITY

Health Cluster

RESEARCH INTEREST

1. Investigating the mechanisms of action of phytochemical compounds, including antioxidant, antiglycation, calcium signaling, and electrophysiology. 2. Exploring protein glycation and advanced glycation end products (AGEs) in diabetes complications. 3. Examining how phytochemical compounds stimulate insulin secretion from beta-cells. 4. Researching how phytochemical compounds control adipogenesis and enhance glucose uptake in adipocytes. 5. Assessing the impact of antioxidant supplementation on oxidative stress conditions in osteoarthritis. 6. Contributing to the development of functional foods.

EDUCATION

2017 Ph.D. (Biomedical Sciences), Chulalongkorn University, Bangkok, Thailand
2012 M.Sc. (Medical Biochemistry), Chulalongkorn University, Bangkok, Thailand
2009 B.Sc. (Nutrition and Dietetics), Chulalongkorn University, Bangkok, Thailand

TRAINING

July - July 2019 โครงการฝึกอบรม"สร้างนักวิจัยรุ่นใหม่" (ลูกไก่) รุ่นที่ 1 Bangkok,
Thailand

HONORS AND AWARDS

2019	The Most Innovative Padthai#3
2019	1st Runner Up
2017	Outstanding Oral Presentation
2016	First place in the PhD poster competition in Phi Zeta Research Award
2016	Finalist for ASN's emerging leaders in Nutrition Science Poster Competition

PUBLICATIONS

1. Riewruja K., Phakham S., Sompolpong P., Reantragoon R., Tanavalee A.,.....Suantawee T et al. Cytokine Profiling and Intra-Articular Injection of Autologous Platelet-Rich Plasma in Knee Osteoarthritis. *International Journal of Molecular Sciences*. 2022; 23(2);
2. Kongthitlerd P., Thilavech T., Marnpae M., Rong WQ., Yao SM.,.....Sauntawee t et al. Cyanidin-3-rutinoside stimulated insulin secretion through activation of L-type voltage-dependent Ca²⁺ channels and the PLC-IP₃ pathway in pancreatic beta-cells. *BIOMEDICINE amp; PHARMACOTHERAPY*. 2022; 146;
3. Chanbunyawat CCP., Churnnumduang P., Chantarasinlapin P., Suantawee T., Adisakwattana S.. Effect of gac fruit (*Momordica cochinchinensis*) powder on in vitro starch digestibility, nutritional quality, textural and sensory characteristics of pasta. *LWT-FOOD SCIENCE AND TECHNOLOGY*. 2020; 118;
4. Kongthitlerd P., Suantawee T., Cheng H., Thilavech T., Marnpae M.. Anthocyanin-Enriched Riceberry Rice Extract Inhibits Cell Proliferation and Adipogenesis in 3T3-L1 Preadipocytes by Downregulating Adipogenic Transcription Factors and Their Targeting Genes. *NUTRIENTS*. 2020; 12(8);
5. Chusak C., Chanbunyawat P., Chumnumduang P., Chantarasinlapin P., Suantawee T.. Effect of gac fruit (*Momordica cochinchinensis*) powder on in vitro starch digestibility, nutritional quality, textural and sensory characteristics of pasta. *LWT*. 2020; 118;
6. Stovall K.E., Tran T.D.N., Suantawee T., Yao S., Gimble J.M.. Adenosine triphosphate enhances osteoblast differentiation of rat dental pulp stem cells via

- the PLC-IP3 pathway and intracellular Ca²⁺ signaling. *Journal of Cellular Physiology*. 2020; 235(2); 1723-1732.
7. Suantawee T., Thilavech T., Cheng H., Adisakwattana S.. Cyanidin Attenuates Methylglyoxal-Induced Oxidative Stress and Apoptosis in INS-1 Pancreatic beta-Cells by Increasing Glyoxalase-1 Activity. *NUTRIENTS*. 2020; 12(5);
 8. Tanyawan Suantawee. Advanced Glycation End Products in Foodstuffs and Gut Microbiota. *Thai Journal of Toxicology*. 2019; 34(1); 91-109.
 9. Suantawee T., Elazab ST., Hsu WH., Yao SM., Cheng H.. Cyanidin Stimulates Insulin Secretion and Pancreatic beta-Cell Gene Expression through Activation of L-type Voltage-Dependent Ca²⁺ Channels. *NUTRIENTS*. 2017; 9(8);
 10. Tantavisut S., Tanavalee A., Honsawek S., Suantawee T., Ngarmukos S.. Effect of vitamin E on oxidative stress level in blood, synovial fluid, and synovial tissue in severe knee osteoarthritis: a randomized controlled study. *BMC MUSCULOSKELETAL DISORDERS*. 2017; 18;
 11. Tran TN., Stovall KE., Suantawee T., Hu Y., Yao S.. Transient receptor potential melastatin 4 channel is required for rat dental pulp stem cell proliferation and survival. *CELL PROLIFERATION*. 2017; 50(5);
 12. Suantawee T., Cheng H., Adisakwattana S.. Protective effect of cyanidin against glucose- and methylglyoxal-induced protein glycation and oxidative DNA damage. *INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES*. 2016; 93;814-821.
 13. Sompong W., Muangngam N., Kongpatpharnich A., Manacharoenlarp C., Amorworasin C.,.....Suantawee T et al. The inhibitory activity of herbal medicines on the keys enzymes and steps related to carbohydrate and lipid digestion. *BMC COMPLEMENTARY AND ALTERNATIVE MEDICINE*. 2016; 16;
 14. Meeprom A., Sompong W., Suantawee T., Thilavech T., Chan CB.. Isoferulic acid prevents methylglyoxal-induced protein glycation and DNA damage by free radical scavenging activity. *BMC COMPLEMENTARY AND ALTERNATIVE MEDICINE*. 2015; 15;
 15. Suantawee T., Tantavisut S., Adisakwattana S., Tanpowpong T., Tanavalee A.. Upregulation of inducible nitric oxide synthase and nitrotyrosine expression in primary knee osteoarthritis. *Journal of the Medical Association of Thailand*. 2015; 98;S91-S97.
 16. Suantawee T., Wesarachanon K., Anantsuphasak K., Daenphetploy T., Thien-Ngern S.. Protein glycation inhibitory activity and antioxidant capacity of clove extract. *JOURNAL OF FOOD SCIENCE AND TECHNOLOGY-MYSORE*. 2015; 52(6); 3843-3850.

17. Dokkaew J., Agthong S., Suantawee T. Vitamin E reduces sensory neuronal loss and improves nerve regeneration after sciatic nerve injury. *ASIAN BIOMEDICINE*. 2013; 7(5); 649-655.
18. Suantawee T., Tantavisut S., Adisakwattana S., Tanavalee A., Yuktanandana P.. Oxidative stress, vitamin E, and antioxidant capacity in knee Osteoarthritis. *Journal of Clinical and Diagnostic Research*. 2013; 7(9); 1855-1859.
19. Honsawek S., Yuktanandana P., Tanavalee A., Chirathaworn C., Anomasiri W.,.....Suantawee T et al. Plasma and synovial fluid connective tissue growth factor levels are correlated with disease severity in patients with knee osteoarthritis. *BIOMARKERS*. 2012; 17(4); 303-308.
20. Stovall KE., Tran TDN., Suantawee T., Yao SM., Gimble JM.. Adenosine triphosphate enhances osteoblast differentiation of rat dental pulp stem cells via the PLC-IP3 pathway and intracellular Ca²⁺ signaling. *JOURNAL OF CELLULAR PHYSIOLOGY*.

CONFERENCE PAPERS

1. Suantawee T., Cheng H., Adisakwattana S.. Cyanidin, a Natural Anti-Glycation Agent, Inhibits Methylglyoxal- and Glucose-Mediated Protein Glycation in vitro. *Experimental Biology Meeting; FEDERATION AMER SOC EXP BIOL*; 2016. -