CURRICULUM VITAE

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B.Sc. (Medical Science), Ph.D. (Biochemistry), M.D., SFHEA

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CAREER PROGRESSION

2566 BE-current (2023-current)	Assistant Dean for Research and Innovation, Faculty of Medicine Siriraj Hospital, Mahidol University
2565 BE-current (2022-current)	Full Professor obtained a high salary level (Biochemistry)
2565-2566 BE (2022-2023)	PhD. Program Director, Immunology Program, Department of Immunology, Faculty of Medicine Siriraj Hospital, Mahidol University
2561 BE-current (2018-current)	Full Professor (Biochemistry)
2560-2563 BE (2011-2020)	Vice Head Department, Department of Immunology, Faculty of Medicine Siriraj Hospital, Mahidol University
2554-2560 BE (2011-2017)	Associate Professor (Biochemistry), Department of Immunology, Faculty of Medicine Siriraj Hospital, Mahidol University
2548-2553 BE (2005-2010)	Assistant Professor (Biochemistry), Department of Immunology, Faculty of Medicine Siriraj Hospital, Mahidol University
2544-2547 BE (2001-2004)	Lecturer, Department of Biochemistry, Faculty of Medicine, Khon Kaen University

EDUCATION AND TRAINING

Year	Level of graduation	Faculty	University/Country
1993	B.Sc. (Medical Science) (Second Honor)	Science	Mahidol, Thailand
1998	Ph.D. (Biochemistry)	Science	Mahidol, Thailand
2001	M.D. (Second Honor)	Medicine, Ramathibodhi Hospital	Mahidol, Thailand

Postdoctoral fellowship (2002-2003) in Molecular Carcinogenesis under the supervision of Professor Norman Drinkwater, Director of McArdle Laboratory for Cancer Research in the title “The inhibitory effect of somatostatin analogue in the mouse hepatocarcinogenesis” at the University of Wisconsin, USA, supported by Postdoctoral Grant, Thailand Research Fund and Ericsson Foundation, Thailand and UW-Asian Partnership Initiative, University of Wisconsin-Madison, USA

RESEARCH INTERESTS

- Tumor microenvironment and tumor immune microenvironment in cancer
- Cancer-associated fibroblasts and cancer cells interaction
- Cancer immunotherapy and immunomodulation
- AI and immune status evaluation

HONOURS AND AWARDS

1. **Mahidol University Global Talent (Academic category) 2025**, Mahidol University
2. **Outstanding Thesis Awards Promoting Mahidol University's SDGs Policies of the Fiscal Year 2025** as a major advisor for Doctoral level award winner
3. **Siriraj Great Honorable Award 2024 (Siriraj Cherd Choo Kiat Award)**, Faculty of Medicine Siriraj Hospital, Mahidol University
4. **Outstanding Personnel Mahidol University 2024**, Academic Track, with 10-20 years of service
5. **Mahidol University Top 1% Researcher 2025,** Research Division, Mahidol University
6. **Senior Fellow (SFHEA)**, The Professional Standards Framework (PSF) for teaching and learning in higher education, AdvanceHE, UK
7. **Full Professor obtained a high salary level** (Biochemistry), Faculty of Medicine Siriraj Hospital, Mahidol University
8. **Siriraj Great Honorable Award 2023 (Siriraj Cherd Choo Kiat Award)**, Faculty of Medicine Siriraj Hospital, Mahidol University
9. **Outstanding Preclinical Research Award 2024 (Preclinical/Biomedical Research)**, Faculty of Medicine Siriraj Hospital, Mahidol University, from the publication entitled "Enhancement of PD-L1-attenuated CAR-T cell function through breast cancer-associated fibroblasts-derived IL-6 signalling via STAT3/AKT pathways"
10. **Visiting Professor at Kumamoto University 2024-2026,** Graduate School of Medical Sciences, Kumamoto University, Japan
11. **Outstanding Award in Research and Medical Science, DMSc Award 2023**, Department of Medical Sciences, Ministry of Public Health, Thailand
12. **Outstanding Preclinical Research Award 2023 (Innovation)**, Adoptive transfer of anti-nucleolin T cells combined with PD-L1 inhibition against triple-negative breast cancer, Faculty of Medicine Siriraj Hospital, Mahidol University
13. **Outstanding Faculty of Graduate Study Alumni 2021 in Academic and Research**, Faculty of Graduate Study Alumni Association, Mahidol University
14. **Visiting Professor at Kumamoto University 2020-2022**, Graduate School of Medical Sciences, Kumamoto University, Japan
15. **Outstanding Preclinical Research Award 2019**, Faculty of Medicine Siriraj Hospital, Mahidol University

16. **Outstanding Faculty of Medicine Ramathibodhi Hospital Alumni 2019**, Faculty of Medicine Ramathibodhi Hospital, Ramathibodhi Alumni Association, Mahidol University
17. **Siriraj Great Honorable Award 2019 (Siriraj Cherd Choo Kiat Award)**, Faculty of Medicine Siriraj Hospital, Mahidol University
18. **Biochemistry and Molecular Biology Award for Research Excellence (Prof. M.R. Jisnuson Svasti Award) 2018**, from The Biochemistry and Molecular Biology Section, Science Society of Thailand under the Patronage of His Majesty the King
19. **Exchanger Researcher Scholars since 2018**, Faculty of Medicine Siriraj Hospital, Mahidol University
20. **Visiting Associate Professor at Kumamoto University 2018-2019**, Graduate School of Medical Sciences, Kumamoto University, Japan
21. **Major Advisor's Role on the Distinguished Ph.D. Thesis Award**, Mahidol University 2018
22. **Ananda Mahidol Foundation Graduate Grant for Medicine**, 2013-2015
23. **Outstanding Oral Presentation Award 2009**, on the topic "Role of tumor-associated fibroblast in the promotion and progression of cholangiocarcinoma" in the 14th World Congress on Advances in Oncology and 12th International Symposium on Molecular Medicine, Loutraki, Greece
24. **Outstanding Preclinical Research Award 2009**, Faculty of Medicine Siriraj Hospital, Mahidol University on the topic "Gene expression profiling of cholangiocarcinoma-derived fibroblast reveals alterations related to tumor progression and indicates periostin as a poor prognostic marker"
25. **Outstanding University Teaching Staff 2006**, Khon Kaen University, Khon Kaen, Thailand
26. **Medical Research Fund Award 2006**, for the cost of attending and presenting a poster paper in the 20th IUBMB International Congress of Biochemistry and Molecular Biology and 11th FAOBMB Congress, Kyoto, Japan
27. **Outstanding Research Award 2005 (Biomedical Research)**, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand on the topic "Increased cell proliferation of mouse fibroblasts NIH-3T3 *in vitro* induced by excretory/secretory product(s) form *Opisthorchis viverrini*
28. **Medical Research Fund Award 2002**, for the cost of attending and presenting an oral paper in the UICC Symposium "Asian Cancer Prevention-Today and Tomorrow" and the First APOCP Conference "Inflammation and Cancer", Nagoya, Japan
29. **Medical Scholars Program Scholarship** (Ph.D.-M.D. Program), Mahidol University 1989-2001

HONOURS AND AWARDS TO UNDERSUPERVISED STUDETNS/RESEARCERS/ POSTDOCS (as a major advisor/PI)

1. Outstanding Thesis Awards Promoting Mahidol University's SDGs Policies of the Fiscal Year 2025
2. **Travel Awards** for 2 researchers to oral presentations

   2.1 Phankeaw P, Khanaruksombat S, Numprasit W, Augsornworawat P, Warnnissorn M, Thuwajit P, -**Thuwajit C**. Gene signature of cancer-associated fibroblasts in high tumor budding triple-negative breast cancer defines LIF as a novel therapeutic marker. In the International Conference of the

Genetics Society of Korea/The 1st Asian Genetics Consortium Conference, Bexco, Busan, Korea, Oct 16-18, 2024 (PP poster presentation)

2.2 Khanaruksombat S, Mar Oo H, Venkatraman S, Sampattavanich S, Sa-Nguanraksa D, Warnnissorn M, Thuwajit P, **Thuwajit C**. Immunosuppressive Microenvironment in Short Survival of Triple-Negative Breast Cancer. In the International Conference of the Genetics Society of Korea/The 1st Asian Genetics Consortium Conference, Bexco, Busan, Korea, Oct 16-18, 2024 (SK poser presentation)

3. **The First Runner-up Research Award for PhD. Students GRF 2024.** Role of breast cancer hippo pathway in cancer-associated fibroblast-mediated immune regulation. Graduation Research Forum, Jun 6, 2024, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand
4. **The Second Runner-up Research Award for MSc. Students GRF 2024.** Folate receptor alpha-car t cells and 8-*o*-methylfusarubin-encapsulated anti-fibroblast activation protein-coated nanoparticles effectively destroy breast cancer-fibroblast heterospheroids. Graduation Research Forum, Jun 6, 2024, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand
5. **The Winner Research Presentation Award for Students SiCMPH 2023.** The tumor-specific T cells from short peptides-pulsed PBMCs effectively destroy triple negative breast cancer cells. SiCMPH, Jun 13-23, 2023, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand
6. **The Second Runner-up Research Presentation Award for Students SiCMPH 2023.** Role of tumour budding as a poor prognostic marker in colorectal cancer and the potential molecular mechanism. SiCMPH, Jun 13-23, 2023, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand
7. **The Consolidation Research Award for PhD. Students GRF 2023.** Understanding the molecular mechanism of tumour budding and its relationship with tumour microenvironment in colorectal cancer. Graduation Research Forum 2023, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand
8. **The Consolidation Research Award for Ph.D. Students GFR 2023.** Neoantigen-specific T cells effectively destroy patient-derived breast cancer cells, Graduation Research Forum 2023, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand
9. **The Second-Runner Up Research Award for M.Sc. Students GFR 2023.** Generation of mesothelin- and nucleolin-specific T cells against triple negative breast cancer by short peptides. Graduation Research Forum 2023, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand
10. **The Outstanding Poster Presentation Award 2023.** The mesothelin/nucleolin-specific T cells from the combined short peptides-pulsed PBMCs effectively destroy triple negative breast cancer cells, AAIAT2023 Toward Precision Medicine: Challenges in Allergy & Immunology, 27-29 Mar 2023, Bangkok, Thailand

11. **The Outstanding Oral Presentation Award 2022**. The production of effective nucleolin-specific t cells for the treatment of triple negative breast cancer, SiCMPH 2022, Aug 2022, Bangkok, Thailand
12. **The Outstanding Oral Presentation Award 2022.** The induction of nucleolin-specific T cells against triple negative breast cancer by immunogenic nucleolin short peptides Protein Society of Thailand, 9-11 Nov 2022, Chiang Mai, Thailand
13. **The Outstanding Poster Presentation Award 2022**. Understanding the molecular mechanism of tumor budding and its relationship with tumor microenvironment in colorectal cancer. Protein Society of Thailand, 9-11 Nov 2022, Chiang Mai, Thailand
14. **The Consolidation Award, Graduate Research Forum 2020**. IL-6 and PD-L1 expression in breast cancer, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand
15. **The Major Advisor Role Distinguished Thesis Award 2017**, The Distinguished Thesis Award 2017, category: Health Science and Applied Health Science, Faculty of Graduate Studies, Mahidol University, Bangkok, Thailand
16. **Oral Presentation Award 2017**, in the title Breast cancer stem cell-derived RNA activates dendritic cells for cell-mediated tumor killing. Joint Conference in Medical Sciences 2017: Chula-Rama-Siriraj (JCMS 2017), 13-15 Sep 2017, Bangkok, Thailand
17. **The Consolidation Award Poster Presentation for Ph.D. student**. Role of Interleukin-33 in Cholangiocarcinoma Progression. in Graduate Research Forum 2016, May 18, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand
18. **The Best of Oral Presentation Award for Ph.D. student**. MiR-15a-modulated PAI-2 and VEGF-A Expressions by Cancer-associated Fibroblasts Promote Aggressiveness of Cholangiocarcinoma. in Graduate Research Forum 2016, May 18, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand
19. **First Prize Poster Presentation.** Fibroblast-derived alpha-smooth muscle actin and tumor-derived HMGB1 are associated with clinicopathological features in breast cancer patients. In The 10th Seminar in Head, Neck and Breast Surgery: Best Practice in HNS Surgery 2016, April 2-3, Bangkok, Thailand
20. **The Best Poster Presentation Award of Session Biomedical Science.** The 41st Congress on Science and Technology of Thailand. Saranaree University of Technology, Nov 6-8, 2015 Nakorn Ratchasima Thailand
21. **The Best of Oral Presentation Award** (M.Sc.) in Graduate Research Forum 2015, June 10, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand
22. **The Best of Oral Presentation Award** (Ph.D.) in Graduate Research Forum 2015, June 10, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand
23. **Outstanding Poster Presentation** in RGJ-Ph.D. Congress XVI, June 11-13, 2015, Chonburi, Thailand
24. **Outstanding Oral Presentation** in RGJ-Ph.D. Congress XVI, June 11-13, 2015, Chonburi, Thailand
25. The **3rd Outstanding Poster Presentation Award 2012** In the Annual Conference, Faculty of Medicine Siriraj Hospital: The International Conference in Medicine and Public Health 2012, Bangkok, Thailand

26. **Merck Young Scientist Award 2010** (The first running-up), Merck Company (Thailand), Bangkok, Thailand
27. **Travel Award 2010** for Presentation on the topic "Periostin induces matrix metalloproteinase expression in cholangiocarcinoma" in the 12th Asian-Pacific Congress of Clinical Biochemistry, Seoul, Korea

PUBLICATIONS * corresponding author

Life-time citation 3151 (Scopus) (4274 Google Scholars) / H-index 23 (Scopus) (26 Google Scholars) / FWCI 1.143-1.188 / Publications 68 (update Feb 2026)

International publications

1. Thongkleang T, Thongchot S, Rodponthukwaji K, Luangwattananun P, Tadpetch K, Yenchitsomanus Pt, Thuwajit P, Punnakitikashem P, **Thuwajit C***. Dual targeting of FAP-directed nanoparticles and FRα-specific CAR-T cells induces additive anti-tumor effects in triple-negative breast cancer. ***Int J Biol Sci*** 2026; 22(5):2736-2753 (Q1, IF 10 Top10%)
2. Phankeaw P, Khanaruksombat S, Numprasit W, Jamjuntra P, Aksornworawat P, Warnnissorn M, Thuwajit P, **Thuwajit C***. Stromal transcriptomics uncover LIF as a key effector in high tumor budding triple-negative breast cancer. ***Sci Rep*** 2025 Nov 25;15(1):45309 (Q1, IF 4.6)
3. Boonyarit B, Kositchutima M, Naphattalung T, Yamprasert N, **Thuwajit C**, Rungrotmongkol T*, Nutanong S*. SynProtX: SynProtX: A Large-Scale Proteomics-Based Deep Learning Model for Predicting Synergistic Anticancer Drug Combinations. ***Gigascience*** 2025 Jan 6:14:giaf080 (Q1, IF 11.8, Top1%)
4. Venkatraman S, Balasubramanian B, Kongpracha P, Yangngam S, Chuangchot N, Khanaruksombat S, Thongchot S, Suntiparpluacha M, Myint KZ, Soodvilai S, Janvilisri T, Jirawatanotai S, **Thuwajit C**, Meller J, Chutipongtanate S *, Tohtong R*. Identification of transcriptional regulators of immune evasion across cancers: an alternative immunotherapeutic strategy for cholangiocarcinoma. ***Cancers*** 2024, 16, 4197 (Q1, IF 4.5)
5. Rodponthukwaji K, Thongchot S, Deureh S, Thongkleang T, Kunwong N, Srisawat C, Thuwajit P, Nguyen KT, Tadpetch K, **Thuwajit C**, Punnakitikashem P*. Development of cancer-associated fibroblasts-targeting polymeric nanoparticles loaded with 8-*O*-methylfusarubin for breast cancer treatment. ***Inter J Pharm X*** 2024 Oct 17;8:100294. doi: 10.1016/j.ijpx.2024.100294. eCollection 2024 Dec (Q1, IF 5.3)
6. Thinyakul C, Sakamoto Y, Shimoda M, Liu Y, Thongchot S, Reda O, Nita A, Sakamula R, Sampattavanich S, Maeda A, Niimura M, Kanamori Y, Thuwajit P, Nakayama K, Guan K, Satou Y, **Thuwajit C**, Moroishi T*. Hippo pathway in cancer cells induces immunosuppressive NCAM1+aSMA+ fibroblasts. ***Com Biol*** 2024 Oct 17;7(1):1343. doi: 10.1038/s42003-024-07041-4 (Q1, IF 5.2 Top10% Biology)

7. Thongchot T, Aksonnam K, Prasopsiri J, Soongsaja D, Warnnissorn M, O-Charoenrat P, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. Mesothelin- and nucleolin-specific T cells from combined short peptides effectively kill triple-negative breast cancer cells. ***BMC Med*** 2024 Sep 18;22(1):400. doi: 10.1186/s12916-024-03625-3 (Q1, IF 7.0 Top10% Medicine)
8. Chieochansin T*, Sanachai K, Darai N, Chiraphapphaiboon W, Choomee K, Yenchitsomanus P, **Thuwajit C**, Rungrotmongkol T. In Silico Advancements in Peptide-MHC Interaction: A Molecular Dynamics Study of Predicted Glypican-3 Peptides and HLA-A*11:01. ***Heliyon*** 2024, Aug 22;10(17):e36654. doi: 10.1016/j.heliyon.2024.e36654. eCollection 2024 Sep 15 (Q1, IF 3.4)
9. Janyasupab P, Singhanat K, Warnnissorn M, Thuwajit P, Suratanee A, Plaimas K*, **Thuwajit C***. Integration of differential expression analysis and mutual information to identify tumor budding-associated genes in breast cancer cells. ***Biomolecules*** 2024, 14, 896. https://doi.org/10.3390/-biom14080896 (Q1, IF 4.8)
10. Jirapongwattana N, Thongchot S, Pongpaibul A, Takarnsagha A, Thuwajit P, **Thuwajit C***, Edwards J*. The combined tumour-based Fascin/Snail and stromal periostin reveals the effective prognosis prediction in colorectal cancer patients. ***PloS One*** 2024 Jun 27;19(6):e0304666. doi: 10.1371/journal.pone.0304666. eCollection 2024. (Q1, IF 3.7)
11. Seesawad N, Ittichaiwong P, Sudhawiyangkul T, Sawangjai P, Thuwajit P, Boonsakan P, Sripodok S, Veerakanjana K, Luenam P, Charngkaew K, Pongpaibul A, Angkathunyakul N, Hnoohom N, Yuenyong S, **Thuwajit C***, Wilaiprasitporn T*. *PseudoCell*: Hard negative mining as pseudo labelling for deep learning-based centroblast cell detection. ***IEEE Open J Eng Med Biol*** 2024, vol 5, p514-523 doi: 10.1109/OJEMB.2024.3407351 (Q2, IF 5.8)
12. Sueangoen N, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. Public neoantigens in breast cancer immunotherapy. ***Int J Mol Med*** 2024, Jul;54(1):65. doi: 10.3892/ijmm.2024.5388. Epub 2024 Jun 21. (Q1, IF 5.4)
13. Hathakarnkul P*, Pennel K, Alexander P, van Wyk H, Roseweir A, Inthagard J, Hay J, Anderson D, Maka N, Park J, Roxburgh C, **Thuwajit C**, McMillan D, Edwards J. Histopathological tumour microenvironment score independently predicts outcome in primary operable colorectal cancer. ***J Pathol Clin Res*** 2024 May;10(3):e12374. doi: 10.1002/2056-4538.12374. (Q1, IF 4.373)
14. Sangthong J, **Thuwajit C**, Jensen LT, Komyod W, YuvaniyamaJ, Ponglikitmongkol M*. BRCA1 deficiency enhances the aggressiveness of breast cancer cells expressing HPV16 oncoproteins. ***Biol Cell*** 2024 Mar 21:e202300072. doi: 10.1111/boc.202300072. Online ahead of print. (Q1, IF 3.303)
15. Venkatraman S, Balasubramanian B, **Thuwajit C**, Meller J, Tohtong R*, Chutipongtanate D*. Tackling MYC at the intersection of cancer metabolism and oncoimmunology. ***Front Immunol*** 2024 Feb 8;15:1324045.doi: 10.3389/fimmu.2024.1324045. eCollection 2024. (Q1, IF 7.3)

16. Sangthong J, **Thuwajit C**, Jensen LT, Komyod W, YuvaniyamaJ, Ponglikitmongkol M*. BRCA1 deficiency enhances the aggressiveness of breast cancer cells expressing HPV16 oncoproteins. ***Biol Cell*** 2024 Mar 21:e202300072. doi: 10.1111/boc.202300072. Online ahead of print. (Q1, IF 3.303)
17. Yuenyong S, Boonsakan P, Sripodok S, Thuwajit P, Charngkaew K, Pongpaibul A, Angkathunyakul N, Hnoohom N*, **Thuwajit C***. Detection of centroblast cells in H&E stained whole slide image based on object detection. ***Front Med*** 2024, DOI 10.3389/fmed.2024.1303982 (Q1, IF 3.9)
18. Sueangoen N, Grove H, Chongchot N, Prasopsiri J, Rungrotmongkol T, Sanachai K, Darai N, Thongchot S, Suriyaphol P, Sa-Nguanraksa D, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. Stimulating T cell responses against patient-derived breast cancer cells with neoantigen peptide-loaded peripheral blood mononuclear cells. ***Cancer Immunol Immunother*** 2024 Feb 13;73(3):43.doi: 10.1007/s00262-024-03627-3. (Q1, IF 6.63, Top10% in Medicine miscellaneous)
19. Luangwattananun P, Sangsuwannukul T, Supimon K, Chieochansin T, **Thuwajit C**, Junking M, Yenchitsomanus P*. Anti-PD-L1×anti-CD3 bispecific T-cell engager-armed T cells can overcome immunosuppression and redirect T cells to kill breast cancer cells expressing PD-L1. ***Int Immunopharmacol*** 2023 Nov;124(Pt B):111012. doi: 10.1016/j.intimp.2023.111012. Epub 2023 Oct 5. (Q1, IF 5.714)
20. Chuangchot N, Thongchot S, Jamjuntra P, Luangwattananun P, Junking M, Yenchitsomanus P, Thuwajit P, **Thuwajit C***. Interleukin-6 from breast cancer-associated fibroblasts increases PD-L1 and resistance to cancer cell killing by folate receptor-alpha CAR-T cells through STAT3/AKT signaling pathway. ***Breast Cancer Res*** 2023 Jul 21;25(1):86. doi: 10.1186/s13058-023-01684-7 (Q1, IF 8.408, Top10% in Oncology)
21. Thongchot S, Aksonnam K, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. Nucleolin-based targeting strategies in cancer treatment: Focus on cancer immunotherapy. ***Int J Mol Med*** 2023 Sep;52(3):81. doi: 10.3892/ijmm.2023.5284. Epub 2023 Jul 21 (Q1, IF 5.314)
22. Hatthakarnkul P, et al. **Thuwajit C**, Edwards J*. S100A2 as a potential prognostic marker and its association with adverse factors in colorectal cancer patient. ***J Cancer*** 2023 Jun 19;14(10):1837-1847. doi: 10.7150/jca.83910. eCollection 2023 (Q2, IF 3.456)
23. Suzuki T, Kilbey A, Ridgeway R, Hayman H, Bryne R, Rodriguez NC, Georgakopoulou A, Chen L, Verzi M, Gay D, Vázquez EG, Belnoue-Davis HL, Gilroy K, Køstner AK, Kersten C, **Thuwajit C**, Anderson D, Wiesheu R, Jandke A, Roberts N, Blyth K, Roseweir A, Leedham SJ, Dunne PD, Edwards J, Hayday A, Sansom OJ, Coffelt SB*. Beta-catenin drives butyrophilin-like molecule loss and gamma delta T cell exclusion in colon cancer. ***Cancer Immunol Res*** 2023 Jun 13:CIR-22-0644. doi: 10.1158/2326-6066.CIR-22-0644. Online ahead of print. (Q1, IF 12.020, top 10% in Oncology and top 10% in Immunology)

24. Numprasit W, Yangngam S, Prasopsiri J, Quinn J, Edwards J, **Thuwajit C***. Carbonic anhydrase 9-related tumoral hypoxia predicts worse prognosis in breast cancer: A systemic review and meta-analysis. ***Front Med*** 2023 Mar 17;10:1087270. doi: 10.3389/fmed.2023.1087270. eCollection 2023 (Q1, IF 5.058)
25. Thongchot S, Duangkaew S, Yotchai W, Maungsomboon S, Phimolsarnti R, Asavamongkolkul A, Thuwajit P, **Thuwajit C**, Chandhanayingyong C*. Novel CSF1R-positive tenosynovial giant cell tumor cell lines and their pexidartinib (PLX3397) and sotuletinib (BLZ945)-induced apoptosis. ***Hum Cell*** 2022 Dec 2. doi: 10.1007/s13577-022-00823-0. Epub ahead of print. (Q2, IF 4.174)
26. Yangngam S, Prasopsiri J, Hatthakarnkul P, Thongchot S, Thuwajit P, Yenchitsomanus P, Edwards J, **Thuwajit C***. Cellular localization of nucleolin determines the prognosis in cancers: a meta-analysis. ***J Mol Med*** 2022 Aug;100(8):1145-1157. doi: 10.1007/s00109-022-02228-w. Epub 2022 Jul 21. (Q1, IF 6.832)
27. Luangwattananun P, Chiraphapphaiboon W, **Thuwajit C**, Junking M, Yenchitsomanus P*. Enhanced cytotoxicity of T lymphocytes by self-differentiated myeloid-derived antigen-presenting-cells reactive against folate receptor alpha expressing breast cancer cells. ***Bioengineered*** 2022 Jun;13(6):14188-14203. doi: 10.1080/21655979.2022.2084262. (Q1, IF 6.832)
28. Alexander PG, Matly AAM, Jirapongwattana N, Pennel KAF, McMillan DC, Horgan PG, Roxburgh CSD, **Thuwajit C**, Roseweir AK, Quinn J, Park JH, Edwards J*. The relationship between the Glasgow microenvironment score and markers of epithelial-to-mesenchymal transition in TNM II-III colorectal cancer. ***Human Patho*** 2022 May 25;127:1-11. doi: 10.1016/j.humpath.2022.05.012. Online ahead of print. (Q1, IF 3.526)
29. Jirapongwattana N, Thongchot S, Yenchitsomanus P, Warnnissorn M, O-Charoenrat P, Thuwajit P, **Thuwajit C*.** Mesothelin-specific T cell cytotoxicity against triple negative breast cancer is enhanced by 40s ribosomal protein subunit 3-treated self-differentiated dendritic cells. ***Oncol Rep*** 2022 Jul;48(1):127. doi: 10.3892/or.2022.8338. Epub 2022 May 26. (Q1, IF 4.136)
30. Amornsupuk K, Thongchot S, Thinyakul C, Eccles SA, Box C, Hedayat S, Thuwajit P, **Thuwajit C***. HMGB1-RAGE mediates breast cancer migration and increases PD-L1 through AKT-dependent signaling pathway. ***BMC Cancer*** 2022 *22:578* https://doi.org/10.1186/s12885-022-09675-1, 1-13. (Q2, IF 4.638)
31. Hatthakarnkul P*, Quinn JA, Ammar A, Lynch G, Wyk VH, McMillan DC, **Thuwajit C**, Edwards J. Molecular mechanisms of tumour budding and its association with microenvironment in colorectal cancer. ***Clin Science*** 2022 Apr 29;136(8):521-535. doi: 10.1042/CS20210886. (Q1, IF 6.124)
32. Thongchot S, Jirapongwattanapeti N, Luangwattananun P, Chiraphapphaiboon W, Chuangchot N, Soongsaja D, O-Charoenrat P, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. Adoptive transfer of

anti-nucleolin T cells combined with PD-L1 inhibition against triple-negative breast cancer. ***Mol Cancer Ther*** 2022 Mar 21;molcanther.0823.2021. doi: 10.1158/1535-7163.MCT-21-0823. Online ahead of print. (Q1, IF 6.261, top 10% in Oncology)

33. Sawasdee N, Wattanapanitch M, Thongsin N, Chiawpanit C, **Thuwajit C**, Yenchitsomanus P, Panya A*. Doxorubicin sensitized breast cancer cells to increase their susceptibility to natural killer cytotoxicity by upregulation of Fas receptor expression. ***Inter J Mol Med*** 2022 Mar;49(3):40. doi: 10.3892/ijmm.2022.5095 (Q1, IF 4.101)
34. Prachayakul V, Rugivarodom M, Nopjaroonsri P, Cheirsilpa K, Chang A, Kamolhan T, Boonyaarunnate T, **Thuwajit C**, Thuwajit P*. Diagnostic power of DNA methylation markers suggestive of cholangiocarcinoma in ERCP-based brush cytology. ***Gastrointest Endosc Gastrointestinal Endoscopy*** 2022 Jan;95(1):123-130.e1. doi: 10.1016/j.gie.2021.07.005. Epub 2021 Jul 12. (Q1, IF 9.427)
35. Thongchot S, Jamjuntra P, Prasopsiri J, Thuwajit P, Sawasdee N, Rungroj N, Poungvarin N, Warnnissorn M, Soongsaja D, O-Charoenrat P, Yenchitsomanus P, **Thuwajit C***. Establishment and characterization of novel highly aggressive HER2-positive and triple negative breast cancer cell lines. ***Oncol Rep*** 2021, Dec;46(6):254. doi: 10.3892/or.2021.8205. Epub 2021 Oct 15. (Q1, IF 3.906)
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2. Jirapongwattana N, Thongchot S, **Thuwajit C***. The overexpressed antigens in triple negative breast cancer and the application in immunotherapy. ***Genomics Genetics*** 2020, 13(1),19-32 In-chon N, **Thuwajit C**, Thuwajit P*. Estrogen activates *cyclooxygenase-2* and *CD44* expressions and promotes cholangiocarcinoma cell invasion. ***Genomics Genetics*** 2016, Dec, 9(2&3), 95-103
3. Chuaysri C, Thuwajit P, **Thuwajit C***. Reactive stroma in human cholangiocarcinoma: the increased expression of alpha-smooth muscle actin in cancer-associated fibroblast. ***Srinagarind Med J*** 2007, 22 (suppl): 187-89

MANUSCRIPTS UNDER REVISION / SUMITTED / IN PREPARATION * Corresponding author

1 Thongchot S, Jirapongwattana N, Chieochansin T, Prasopsiri J, Jirapongwattana N, Chiraphapphaiboon W, Luangwattananun P, Rungrotmongkol T, Sanachai K, Darai N, Soongsaja D, O-Charoenrat P, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. HLA class I-specific nucleolin peptides induce therapeutic T cells in triple-negative breast cancer, *submitted*

2 Khanaruksombat S[#], Suthamporn N[#], Walsri R[#], Thongchot S, Somboonpatarakun C, Luangwattananun P, Jamjuntra P, Rodponthukwaji K, Tadpetche K, Punnakitikashem P, Warnnissorn M, Sa-Nguanraksa D, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. CAR-T cells against TROP-2 and PD-L1 combined with cancer-associated fibroblast–directed nanoparticles effectively eliminate triple-negative breast cancer heterospheroids, *submitted*

3 Natisoontorn P[#], Lumpaopong JS[#], Sorachaimetha N, Singhanat K, Wongsamart R, Thuwajit P, **Thuwajit C*.** Prognostic and therapeutic importance of TROP-2 and MUC-1 in non-small cell lung cancer: A systematic review and meta-analysis, *submitted*

4 Numprasit W, Quinn JA, **Thuwajit C***, Edwards J*. Unveiling the prognostic role of N-myc downstream-regulated 1 (NDGR1) in breast cancer: A systemic review and meta-analysis, *submitted*

5 Wongsamart R[#], Plypongsa P[#], Janyasupab P[#], Jamjantra P, Sa-Nguanraksa D, Warnnissorn M, Thuwajit P, Suratanee A, Plaimas K*, **Thuwajit C***. Spatial transcriptomics identifies NGFR and EDIL3 as tumor budding-associated genes in triple-negative breast cancer, *submitted*

6 Hatthakarnkul P*, et al **Thuwajit C**, Edwards J. Epithelial plasticity and an immune suppressive microenvironment underpin tumour budding in colorectal cancer, *submitted*

7 Supimon K, Sangsuwannukul T, Choomee K, **Thuwajit C**, Junking M, Yenchitsomanus P*. Anti-CD133 chimeric antigen receptor T cells secreting anti-PD-L1 scFv potentiate cytotoxicity in

cholangiocarcinoma, *submitted*

8 Supimon K, Sangsuwannukul T, Sawasdee N, Choomee K, Natungnuy K, Tripatara P, Jirawatnotai S, **Thuwajit C**, Okada S, unking M*, Yenchitsomanus P*. Fourth-generation chimeric antigen receptor t cells targeting mucin 1, *submitted*

9 Klaihmon P, Muangtate P, Thongphayong S, Saetan P, Chanthateyanonth S, **Thuwajit C**, Issargrisil S, Phannasil P*. NECTIN-2 inhibition impairs metastatic ability of triple-negative breast cancer cells via LIMK1-dependent mechanisms, *submitted*

10 Thongchot S, Grove H, Sa-nguanraksa D, O-Charoenrat P, Warnnissorn M, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. Neoantigen-specific T cells induced from peripheral blood mononuclear cells effectively kill autologous breast cancer organoids, *in preparation*

11 Thongchot S, Hatthakarnkul P, Augsornworawat P, Sampattavanich S, Sakamula R, Thuwajit P, Pongpaibul A, Trakarnsanga A, Angkathunyakul N, Edwards J, **Thuwajit C***. Spatial transcriptomic reveals beta-catenin-regulated tumor budding in colorectal cancer through autophagy and inhibits by curcumin, *in preparation*

12 Khanaruksombat S[#], Suthamporn N[#], Walsri R[#], Thongchot S, Somboonpatarakun C, Luangwattananun P, Jamjuntra P, Rodponthukwaji K, Tadpetche K, Punnakitikashem P, Warnnissorn M, Sa-Nguanraksa D, Thuwajit P, Yenchitsomanus P, **Thuwajit C***. CAR-T cells against TROP-2 and PD-L1 combined with cancer-associated fibroblast–directed nanoparticles effectively eliminate triple-negative breast cancer heterospheroids, *in preparation*

13 Jirawannaporn S, Thongchot S, Rodponthukwaji K, Thuwajit P, Punnakitikashem P, Thuwajit P, **Thuwajit C***. Adjuvant-enhanced PLGA nanoparticle nucleolin peptide vaccine promotes potent T cell-mediated cytotoxicity against triple-negative breast cancer, *in preparation*

RESEARCH GRANTS (2020-current) (only as a principal investigator)

Granting Agency (Period)	Research Theme/Project	THB
NRCT/NSTDA) (2024-2027)	New Frontiers in Immunotherapy: Integrating Advanced Cellular Engineering, Cell Reprogramming, and Adjuvant Therapies for Cancer and Immune-Mediated Inflammatory Diseases (Subproject 3)	3,000,000
Program Management Unit-B (PMU-B) (2024-2027)	Personalized immune checkpoint inhibitor response prediction in Thai lung cancer patients by transcriptomics and artificial intelligence for effective patient treatment selection (waiting for signing contract)	14,000,000
Fundamental Fund 2568 (2024-2025)	Development of targeted nanomedicine in cancer immunotherapy for breast cancer treatment (year 3)	1,500,000
Fundamental Fund 2567 (2023-2024)	Development of targeted nanomedicine in cancer immunotherapy for breast cancer treatment (year 2)	1,640,000
Fundamental Fund 2566 (2022-2023)	Development of targeted nanomedicine in cancer immunotherapy for breast cancer treatment (year 1)	2,154,000

Granting Agency (Period)	Research Theme/Project	THB
NRCT/NSTDA) (2024-2027)	New Frontiers in Immunotherapy: Integrating Advanced Cellular Engineering, Cell Reprogramming, and Adjuvant Therapies for Cancer and Immune-Mediated Inflammatory Diseases (Subproject 3)	3,000,000
Midcareer Researcher (2022-2025)	Unravelling tumor budding and cancer-associated fibroblasts crosstalk in immunosuppression as new therapeutic targets in triple negative breast cancer	2,500,000
Mahidol University (2021-2022)	Development of centroblast enumeration system by deep learning for effective treatment in follicular lymphoma	1,000,000
Mid-career Research Grant (2019-2022)	The development of self-differentiated DC-vaccine of specific antigen for the treatment of advanced triple-negative breast cancer patients	2,500,000
National Science and Technology Development Agency (2016-2018)	Development of serum periostin detection kit for prognostic prediction and targeted therapy in colorectal cancer in Thai population	2,990,000
Research Grant, Faculty of Medicine Siriraj Hospital (2020-2024)	Development of breast cancer therapy by using T-cell activated by dendritic cells that present tumor specific antigens	2,000,000
RGJ, TRF (2016-2018)	Role of IL-33 inflammatory cycle in cholangiocarcinoma progression and its potential application as a novel therapeutic target	2,000,000
New Discovery/Frontier Research Grant, Mahidol University (2020-2022)	Development of centroblast enumeration system by deep learning for effective treatment in follicular lymphoma patients	1,000,000

PATENTS/PETTY PATENTS

1. *Petty patent* โมโนไซด์ที่ถูกดัดแปลงให้เป็นเด็นไดรติคและกรรมวิธีดัดแปลง (CT 10% contribution) วันที่ประกาศโฆษณา24/04/2566 เลขที่ประกาศโฆษณา 2101000305A เลขที่คำขอ 2101000305 ลงวันที่ 20 มค 2564
2. *Petty patent* เซลล์เดนดริติกที่มีประสิทธิภาพสูงในการกระตุ้นทีเซลล์ต่อโปรตีนนิวคลีโอลิน (CT 30% contribution) ส่งทุนนักวิจัยรุ่นกลาง-วช/ทุนวิจัยการแพทย์และสาธารณสุข-วช 63 เลขที่คำขอ 2103001236 ลงวันที่ 5 พค 2564
3. *Petty patent* เซลล์เดนดริติกที่มีประสิทธิภาพสูงในการกระตุ้นทีเซลล์ต่อโปรตีนมีโซทีลิน (CT 30% contribution) ส่งทุนนักวิจัยรุ่นกลาง-วช62 เลขที่คำขอ 2103001527 ลงวันที่ 2 มิย 2564

4. *Petty patent* กระบวนการทำนายแอนติเจนใหม่ที่จำเพาะต่อเซลล์มะเร็งและแอนติเจนใหม่ที่จำเพาะต่อเซลล์มะเร็งเต้านมที่ได้จากกระบวนการทำนายนั้น (CT 15% contribution) ส่งทุนคณะ ป4 PY-CT/ทุนวิจัยการแพทย์และสาธารณสุข-วช 63 เลขที่คำขอ 2203002695 ลงวันที่ 3 ตค 2565 **ได้รับเลขที่อนุสิทธิบัตร 3 พย 2568**
5. *Petty patent* วิธีการผลิตทีเซลล์ดัดแปลงที่จำเพาะต่อโปรตีนมิโซทีลินและนิวคลีโอลิน (CT 20% contribution) ส่งทุนคณะ ป4/ทุนวิจัยการแพทย์และสาธารณสุข-วช 65 เลขที่คำขอ 2303003423 ลงวันที่ 19 สค 2566
6. *Patent* เปปไทด์สายสั้นของโปรตีนนิวคลีโอลินที่สามารถจับกับเอชแอลเอ คลาสวัน (HLA class I) ที่เป็น เอชแอลเอ บี (HLA: B) และการใช้เปปไทด์สายสั้นดังกล่าวในการผลิตทีเซลล์ที่จำเพาะต่อโปรตีนนิวคลีโอลิน (nucleolin specific T cells) (CT 20% contribution) (เลขที่หนังสือ อว.78/0716/1038 ยื่น 14 ธันวาคม 2566) ส่งทุนคณะ ป4 เลขที่คำขอ 2401007814 ลงวันที่ 26 พย 2567
7. *Petty patent* กระบวนการผลิตอนุภาคนาโนที่บรรจุ 8-โอ-เมทิลฟูซารูบินติดด้วยแอนติบอดีต่อโปรตีนกระตุ้นไฟโบรบลาสต์สำหรับการรักษาโรคมะเร็งเต้านม (CT 20% contribution) ส่งทุน FF66 (เลขที่หนังสือ อว.78.078/ชค013 ยื่น 11 มกราคม 2567) เลขที่คำขอ 2401007879 ลงวันที่ 28 พย 2567
8. *Petty patent* เซลล์โมโนนิวเคลียร์ที่ถูกดัดแปลง และกรรมวิธีดัดแปลงเซลล์โมโนนิวเคลียร์ให้จำเพาะต่ออิพิโทปของโปรตีนวิลสม์ทูเมอร์วัน (CT 10% contribution) (ยื่น พย 2566)
9. *Patent* กรรมวิธีผลิตออร์แกนอยด์สามมิติของมะเร็งเต้านมเพื่อทดสอบการกำจัดเซลล์มะเร็งของทีเซลล์จำเพาะต่อแอนติเจนใหม่แบบเฉพาะบุคคล (CT 20% contribution) ส่งทุนวช65 (อว. 78.0716/0089 ยื่น 29 มค 2567)
10. *Patent* ทีเซลล์ที่มีตัวรับแอนติเจนแบบลูกผสมที่มีความจำเพาะต่อแอนติเจนทร็อปทูและความสามารถในการหลั่งแอนติบอดีสายเดี่ยวของเน็กตินทูสำหรับการรักษาโรคมะเร็ง (CT 25% contribution) ส่งทุนรุ่นกลาง65 (อว. 78.0716/0856 ยื่น 15 พย 2567)
11. ***Patent*** กระบวนการผลิตทีเซลล์ที่มีตัวรับแอนติเจนแบบลูกผสมที่จำเพาะต่อโปรตีนโทรโฟบลาสท์เซลล์เซอร์เฟสแอนติเจน 2 ที่สามารถหลั่งรีคอมบิแนนท์แอนติบอดีพีดีแอลวัน (CT 15% contribution) ส่งทุนรุ่นกลาง65 (อว. 78.0716/0863 ยื่น 3 กพ 2568)
12. ***Patent*** กรรมวิธีผลิตดีเอ็นเอรีคอมบิแนนต์เพื่อสร้างโปรตีนจำเพาะสองทางที่จับกับโปรตีนมิโซทีลินและซีดีสาม และโปรตีนเน็กตินทูและซีดียี่สิบแปดสำหรับการรักษาโรคมะเร็ง (CT 15% contribution) (อว. 78.07/23637 ยื่น **13** สค 2568)
13. ***Patent*** รีคอมบิแนนต์ดีเอ็นเอที่กำหนดการสร้างทีเซลล์ที่มีตัวรับแอนติเจนแบบลูกผสมที่มีความจำเพาะต่อโปรตีนมิโซทีลินและความสามารถในการหลั่งแอนติบอดีสายเดี่ยวของพีดีแอลวัน และกรรมวิธีในการผลิตทีเซลล์ดังกล่าวสำหรับการรักษาโรคมะเร็ง (CT 15% contribution) เลขที่หนังสือ อว.78.07/23756 ยื่น 15 สิงหาคม 2568)
14. ***Patent*** กระบวนการผลิตที-เซลล์ที่มีตัวรับแอนติเจนแบบลูกผสมที่จำเพาะต่อโปรตีนโทรโฟบลาสท์เซลล์เซอร์เฟสแอนติเจนทูที่สามารถหลั่งแอนติบอดีสายเดี่ยวต่อบีเซเว่นเอชทรี (CT 10% contribution) (เลขที่หนังสือ อว. 78.071/วจ/กจ2396 ยื่น 5 กย 2568)

PRESENTATIONS (2022-current)

Poster Presentation

1. Thongchot S, Thuwajit P, Yenchitsomanus P, **Thuwajit C** (2022). The production of effective nucleolin-specific t cells for the treatment of triple negative breast cancer, SiCMPH 2022, Aug 2022 (ST oral presenter and received outstanding presentation award)
2. Thongchot S, Thuwajit P, **Thuwajit C** (2022). The molecular mechanisms driving tumor budding in colorectal cancer through autophagy pathway. World Cancer Congress 2022, 28-30 Sep 2022,

Lisbon, Portugal (ST oral presenter, received Special Awards of Young Presenters for Best Oral Presentation on the topic “The molecular mechanisms driving tumor budding in colorectal cancer through autophagy pathway)

3. Aksonnam K, Thongchot S, Thuwajit P, Yenchitsomanus P, **Thuwajit C** (2022). Combined mesothelin and nucleolin short peptides generates PBMC-derived antigen-specific T cell against triple negative breast cancer cells. Protein Society of Thailand, 9-11 Nov 2022, Chiang Mai, Thailand (KA poster presenter)
4. Hattakarnkul P, Leslie H, Van Wyk H, Pennel K, Quinn J, Hay J, Park J, Maka N, **Thuwajit C**, Jamieson N, Edwards J (2022). Understanding the molecular mechanism of tumor budding and its relationship with tumor microenvironment in colorectal cancer. Protein Society of Thailand, 9-11 Nov 2022, Chiang Mai, Thailand (PH poster presenter) (The first prize for poster presentation)
5. Thinyakul C, **Thuwajit C**, Moroishi T (2022). Hippo pathway changes cancer-associated fibroblast compositions in breast cancer. The 4th Anniversary Symposium for Double Degree Program: Moving toward global health and precision medicine. CMU-KKU-MU, 1-2 Dec 2022, online presentation (ChanidaT, oral presenter)
6. Venkatraman S, Balasubramanian B, Tohtong R, Chutipongtanate C, **Thuwajit C** (2023). Immune-Oncogenic characterization and molecularly guided drug repositioning for TNBC patients, 30th FAOBMB, 22-25 Nov 2023, Bangkok, Thailand
7. Khanaruksombat S, Mar Oo H, Jamjuntra P, Thongchot S, Sampattavanich S, Sa-Nguanraksa D, Warnnissorn M, Thuwajit P, **Thuwajit C** (2023). Immune landscape discovery of triple-negative breast cancer, Thailand Hub of Talent for Cancer Immunotherapy 1st Annual Meeting: Portal to Global Collaboration for Next Generation Cell and Gene Therapy Development, Nov 16-17, 2023, Chulalongkorn University, Bangkok, Thailand (KS-poster presentation)
8. Phankeaw P, Augsornworawat P, Sa-nguanraksa D, Warnnissorn M, Thuwajit P, **Thuwajit C** (2023). Spatial transcriptomics of cancer-associated fibroblasts indicate potential effect on immune microenvironment in high tumor budding breast cancer, Thailand Hub of Talent for Cancer Immunotherapy 1st Annual Meeting: Portal to Global Collaboration for Next Generation Cell and Gene Therapy Development, Nov 16-17, 2023, Chulalongkorn University, Bangkok, Thailand (PP-poster presentation)
9. Thongchot S, Sa-nguanraksa D, Thuwajit P, Yenchitsomanus P, **Thuwajit C** (2023). Personalized neoantigen immunotherapy platform for breast cancer, Thailand Hub of Talent for Cancer Immunotherapy 1st Annual Meeting: Portal to Global Collaboration for Next Generation Cell and Gene Therapy Development, Nov 16-17, 2023, Chulalongkorn University, Bangkok, Thailand (ST-oral presentation)
10. Thongchot S, Sujjitjoon, Yuti P, Khanaruksombat S, Thuwajit P, Yenchitsomanus P, **Thuwajit C** (2024). The production of anti-trophoblast cell surface antigen 2 CAR T cells secreting anti-NECTIN2 immune checkpoint molecule single chain variable fragment. In the EBMT-EHA 6th European CAR T-cell Meeting, 15-17 Feb 2024, Valencia, Spain (ST-poster presentation)

11. Numprasit W, Quinn JA, Shamis S, Ronney W, Mallon E, **Thuwajit C**, Edwards J (2024). CAIX and related genes predict poor survival outcomes in hormonal receptor-negative breast cancer. In the 14th European Breast Cancer Conference (EBCC 14), March 20-24, 2024, Milan, Italy (WN-poster presentation)
12. Khanaruksombat S, Mar Oo H, Jamjuntra P, Thongchot S, Sampattavanich S, Sa-Nguanraksa D, Warnnissorn M, Thuwajit P, **Thuwajit C**. (2024) IMMUNOSUPPRESSIVE MICROENVIRONMENT IN TRIPLE-NEGATIVE BREAST CANCER WITH HIGH TUMOR BUDDING. In SICMPH 2024, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand (SK oral presentation)
13. Phankeaw P, Khanaruksombat S, Numprasit W, Jamjuntra P, Augsornworawat P, Warnnissorn M, Thuwajit P, **Thuwajit C**. (2024) Transcriptomics of cancer-associated fibroblasts in high tumor budding triple-negative breast cancer indicates a novel therapeutic target. In SICMPH 2024, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand (PP oral presentation)
14. Thongchot S, Sujjitjoon J, Yuti P, Thuwajit P, Yenchitsomanus P, **Thuwajit C**. (2024) The fifth generation anti-trop2 car-t cells secreting anti-nectin2 immune checkpoint molecule effectively destroy breast cancer cells. In SICMPH 2024, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand (ST poster presentation)
15. Thongkleang T, Thongchot S, Luangwattananyn P, Rodponthukwajit K, Punnakitikashem P, Tadpetch K, Thuwajit P, Yenchitomanus P, **Thuwajit C**. (2024) Combined folate receptor alpha-CAR T cells and fibroblast targeting nanoparticles effectively kill breast cancer cell-fibroblast heterospheroids. In SICMPH 2024, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand (TT poster presentation)
16. Khanaruksombat S, Suthamporn N, Walsri R, Thongchot S, Somboonpatarakun C, Thuwajit P, Yenchitsomanus P, **Thuwajit C**. (2024) Development of anti-Trop2-CAR T cells secreting anti-PD-L1 scFv against PD-L1 positive breast cancer. In the 2nd TTCI 2024, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand (SK poster presentation)
17. Phankeaw P, Khanaruksombat S, Luangwattananun P, Thongchot S, Junking M, Thuwajit P, Yenchitsomanus P, **Thuwajit C**. (2024) Production and characterization of chimeric antigen receptor t cells targeting folate receptor alpha and pd-l1 against triple-negative breast cancer cells. In the 2nd TTCI 2024, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand (PP poster presentation)
18. Phankeaw P, Khanaruksombat S, Numprasit W, Augsornworawat P, Warnnissorn M, Thuwajit P, **Thuwajit C**. (2024) Gene signature of cancer-associated fibroblasts in high tumor budding triple-negative breast cancer defines LIF as a novel therapeutic marker. In the International Conference of the Genetics Society of Korea/The 1st Asian Genetics Consortium Conference, Bexco, Busan, Korea, Oct 16-18, 2024 (PP poster presentation)
19. Khanaruksombat S, Mar Oo H, Venkatraman S, Sampattavanich S, Sa-Nguanraksa D, Warnnissorn M, Thuwajit P, **Thuwajit C**. (2024) Immunosuppressive Microenvironment in Short Survival of Triple-Negative Breast Cancer. In the International Conference of the Genetics Society of Korea/The 1st

Asian Genetics Consortium Conference, Bexco, Busan, Korea, Oct 16-18, 2024 (SK poser presentation)

20. Singhanat K, Plypongsa P, Thongchot S, Jamjuntra P, Thuwajit P, **Thuwajit C**. (2024) Production and characterization of non-small cell lung cancer cell-derived organoids**,** Organoids ARE US, Aug 6-8, 2024, Pattaya, Thailand (KS poster presentation)
21. Wongsamart R, Somboonpatarakun C, Nattuwakul C, Sawasdee N, Thuwajit P, Yenchitsomanus P, **Thuwajit C**. (2026) Targeting TROP-2 and PD-L1 Using Dual Bispecific Protein Engagers: A Platform for Non-Small Cell Lung Cancer Immunotherapy. In the Thai Immunology Annual Meeting 2026: The Translational Immuno-Revolution: From Fundamental to Patient Impact, 25-26 Feb 2026, Crowne Plaza Bangkok Lumpini Park, Bangkok, Thailand (RW-poster presentation)
22. Natisoontorn P, Sorachaimetha N, Lumpaopong JS, Khanaruksombat S, Singhanat K, Plypongsa P, Jamjuntra P, ThuwajitP, Yenchitsomanus P, **Thuwajit C**. (2026) Anti-TROP-2 CAR T-cells secreting PD-L1 inhibitor effectively kill Non-Small Cell Lung Cancer Cells. In the Thai Immunology Annual Meeting 2026: The Translational Immuno-Revolution: From Fundamental to Patient Impact, 25-26 Feb 2026, Crowne Plaza Bangkok Lumpini Park, Bangkok, Thailand (PM&NS-poster presentation)
23. Islam K, Arigul T, Thuwajit P, Chantharasamee J, Ruangchira-Urai R, Baisamut T, Thamrongjirapat T, Trachu N, Sitthideatphaiboon P, Paoin C, Phumphuang S, Jenjaroenpun P, **Thuwajit C**. (2026) Predictive Biomarkers for ICI Response in NSCLC Patients Using Spatial Transcriptomics. In the Thai Immunology Annual Meeting 2026: The Translational Immuno-Revolution: From Fundamental to Patient Impact, 25-26 Feb 2026, Crowne Plaza Bangkok Lumpini Park, Bangkok, Thailand (KI-poster presentation)
24. Thongchot S, Kanoksing P, Rodponthukwaji K, Thuwajit P, Tadpetch K, Punnakitikashem P, **Thuwajit C**. (2026) Dual nanoparticles targeting MSLN-positive tumor cells and FAP-positive fibroblasts enhance cytotoxic T cell activity against triple-negative breast cancer. In the Thai Immunology Annual Meeting 2026: The Translational Immuno-Revolution: From Fundamental to Patient Impact, 25-26 Feb 2026, Crowne Plaza Bangkok Lumpini Park, Bangkok, Thailand (PK-poster presentation)
25. Thinyakul C, Sakamoto Y, Shimoda M, Liu Y, Thongchot S, Reda O, Nita A, Sakamula R, Sampattavanich S, Maeda A, Chunthaboon P, Nduru D, Niimura M, Kanamori Y, Thuwajit P, Nakayama K, Guan K, Satou Y, **Thuwajit C**, Moroishi T. (2026) Hippo pathway in breast cancer cells induces NCAM1^{+}**α**SMA^{+} fibroblasts to modulate immunosuppressive tumor microenvironment. In the Thai Immunology Annual Meeting 2026: The Translational Immuno-Revolution: From Fundamental to Patient Impact, 25-26 Feb 2026, Crowne Plaza Bangkok Lumpini Park, Bangkok, Thailand (CThinyakul-poster presentation)

Oral Presentation (2022-current)

1. **Thuwajit C** (2022). Immunotherapy in breast cancer. Protein Society of Thailand 2022, 9-11 Nov 2022, Chiang Mai, Thailand (CT invited speaker)

2. **Thuwajit C** (2023). Neoantigen vaccine in breast cancer treatment. Frontiers in Genetics for Sustainable Development: Genomics Innovation in Agriculture and Health, Genomic and Genetic Society of Thailand, Thailand Lan International 2023 / Bio Asia Pacific 2023 / FutureCHEM INTERNATIONAL 2023, September 6, 2023: 15:15-15:45; MR223, BITEC, Bangkok, Thailand (Invited speaker)
3. **Thuwajit C** (2023). Spatial transcriptomics in Thai triple negative breast cancer and colorectal cancer patients. APAC Spatial Biology Symposium 2023, Friday, 14th July, Le Meridien hotel, Bangkok, Thailand (Invited speaker)
4. **Thuwajit C** (2023). Identifying new tumor biomarkers in Thai colorectal cancer by spatial transcriptomic. In the Spatial Biology Congress: Asia, by Genome Institute of Singapore, Lee Kong Chian School of Medicine, NTU Singapore (Novena Campus), Singapore, Nov 7-8, 2023 (Invited speaker)
5. **Thuwajit C** (2024). Internatiol Conference of the Genetics Society of Korea/The 1st Asian Genetics Consortium Conference, Bexco, Busan, Korea, Oct 16-18, 2024 (Invited speaker)
6. **Thuwajit C** (2026). Integration of Genomic and Transcriptomic Data of Thai Non-Small Cell Lung Cancer for Development of Immunotherapy. In the Thai Immunology Annual Meeting 2026: The Translational Immuno-Revolution: From Fundamental to Patient Impact, 25-26 Feb 2026, Crowne Plaza Bangkok Lumpini Park, Bangkok, Thailand (CT-invited oral presentation)

BOOK CHAPTERS (in Thai)

1. **Chanitra Thuwajit**. Cancer-Associated Fibroblasts IL-6 As A Central Mediator of Immune Suppression and Resistance to Immune Checkpoint Inhibitors in Solid Tumors, Springer Nature Series Book, in press
2. Radchanon Leelasukseree and **Chanitra Thuwajit**. Perspectives and Advances in Cancer Vaccine Strategies for Non-Small Cell Lung Cancer: Mechanisms and Clinical Applications, Springer Nature Series Book, in press
3. Peti Thuwajit and **Chanitra Thuwajit.** Immunotherapy and Cancer Vaccine for Breast Cancer. In: Pornchai O-Charoenrat et al. Breast Cancer. First Edition, 2019. p 623-642
4. **Chanitra Thuwajit**. Molecular Biology Techniques. In: Premjai Areejitranusorn, Patcharee Boonsiri, Saowanun Baumrueraj and Peti Thuwajit. The Biochemistry. Fourth edition, 2005. p 469-502
5. **Chanitra Thuwajit**. Genetics of Cancers. In: Tueanjit Khampitak, Nisana Namwat, Peti Thuwajit and Chanitra Thuwajit. The Medical Genetics. Third Edition, 2008, p 221-264

REVIEWERS IN PEER-REVIED JOURNALS

Cell Mol Biol Lett, Sci Rep, Int J Mol Med, Pathol Res Practice, PLoS One, Clin Breast Cancer, Cellular Oncol, Int J Oncol, BMC Cancer, Oncol Lett, Exp Ther Med, Com Biol, Front Oncol, Sci Asia, Genomics Genetics, Bulletin of The Department of Medical Sciences, JMATHAI

TEACHING EXPERIENCES

For Medical Students

1. Course: SIID 312 Immune Response and Inflammation (2016 -2021)

Topic: Tumor immunology and tumor marker lab

2. Course: SIID 421 Selected Topic in Immunology (2017)

   Topic: Tumor vaccine

3. Course: SIIM 301 Microbiology and Immunology (2008-2015)

   Topic: Tumor immunology and tumor marker lab

4. Course: SIID 260 Introduction to Research (2022-2023)

   Topic: Techniques in Pre-clinical Research

5. Course: SIID 248 Blood, lymphoid, and immune system (2022-2023)

   Group discussion

6. Course: SIID 257 Inflammation and Clinical Immunity (2022-2023)

   Group discussion

7. Course: SIID 373 Medical Science Research: Pre-intermediate Level (2023)

   Advisor special research project

8. Course: SIID 360 Research Experience (2023)

   Advisor special research project

For Graduate Students

1. Advanced Biochemistry (SIBC 606) for the academic year 2017-2023

   Topic: Cancer immunology

2. Immunology Research Grant Development (SIIM 622) for the academic year 2017-2023

   Topic: Tips for response to reviewers: Do and don't

3. Molecular Biochemistry of Cancer (SIIM 615) for the academic year 2014-2023

   Topic: Tumor microenvironment: role in cancer progression and potential therapeutic targets

   Topic: Signal transduction in cancer

4. Immunology (SIIM 501) for the academic year 2008-2023

   Topic: Activation of T lymphocytes (year 2008-2023)

   Topic: Effector mechanisms of cell- mediated immunity (year 2008-2022)

5. Immunology Seminar (SIIM 620) for the academic year 2008-2023

   Train and supervisor students to present in the seminar class

6. Advanced Human Genetics (SIAN 608) for the academic year 2015-2018

   Topic: Genetics of cancer

7. Diagnostic Immunology (SIIM 612) for the academic year 2015-2016

   Topic: Serology test

Course coordinator

1. Immunology Research Grant Development (SIIM 622) for the academic year 2017-2023
2. Immunology Seminar (SIIM 620) for the academic year 2012-2017

THESIS MAJOR ADVISOR

Ph.D. students

1. Krittawat Suwanpukdee, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (current)
2. Chantra Kamnerdnond, Biomedical Sciences Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (current)
3. Warapan Numprasit, Biomedical Sciences Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, Joint Degree Program Mahidol University and University of Glasgow (current)
4. Phimmada Huttakarnkul, Biomedical Sciences Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, Joint Degree Program Mahidol University and University of Glasgow (graduated)
5. Chanida Thinyakul, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, Dual Degree Program Mahidol University and Kumamoto University (graduated)
6. Nattaporn Suesuang, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
7. Niphat Jirapongwattana, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
8. Supaporn Yangngam, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, RGJ-TRF scholarship (graduated)
9. Penkhae Utaijaratrasmi, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, RGJ-TRF scholarship (graduated)
10. Kamolporn Amornsupak, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, RGJ-TRF scholarship (graduated)
11. Kusumawadee Utispan, Molecular Biochemistry and Molecular Biology Program, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand, CHE scholarship (graduated)
12. Daoyot Daurueang, Molecular Biochemistry and Molecular Biology Program, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand(graduated)

Master students

1. Tanva Thongkleang, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
2. Krittaya Aksonnam, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
3. Parichart Jitchawan, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)

4. Suchada Siritanyong, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
5. Jumaporn Sonongbau, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
6. Chanisa Chuaysri, Molecular Biochemistry and Molecular Biology Program, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand (graduated)

THESIS CO-ADVISOR

Ph.D. students

1. Attaphol Permpoon, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
2. Khine Kyaw Oo, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
3. Krisana Kooteum, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
4. Ekapot Singsusawat, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)

Master students

1. Ratanapa Phetchai, Immunology Program, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand (graduated)
2. Taweewan Hunsawong, Molecular Biochemistry and Molecular Biology Program, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand (graduated)
3. Nuannapha Inchon, Molecular Biochemistry and Molecular Biology Program, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand (graduated)
4. Watinee Chawaengrattanachote, Molecular Biochemistry and Molecular Biology Program, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand (graduated)

EXTERNAL EXAMINERS FOR PROPOSAL/DEFENSE EXAMINATIONS

Faculty of Science, Mahidol University, Faculty of Medicine, Chulalongkorn University, Faculty of Science, Chulalongkorn University, Faculty of Pharmaceutical Sciences, Chulalongkorn University, Faculty of Medicine, Khon Kaen University

SCIENCE MEMBERSHIPS

1. Biochemistry and Molecular Biology Division, Science Society of Thailand under the Patronage of His Majesty the King (Executive committee member 2020-2023 and 2024-2027, Live-long member)
2. Genetic Society of Thailand (Executive committee member, Chairperson of Cancer Genetic Section 2020-2023, Vice President 2023-2027, Live-long member)
3. Science Society of Thailand under the Patronage of His Majesty the King (Live-long member)

4. Mahidol University Alumni Association (Live-long member)
5. Allergy, Asthma and Immunology Association of Thailand (AAIA) (Executive committee member 2020-2024, Live-long member No. 1013)
6. American Association for Cancer Research (AACR), No. 223999 (Active member)

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