Curriculum Vitae

Name	Asst. Prof. Apichaya Puangpetch, Ph.D.
Date of Birth	March 5, 1981
Gender	Female
Nationality	Thai
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Education

2000 - 2004	Bachelor Degree in Microbiology Department of Microbiology, Faculty of Science, Khon Kaen university
2004 - 2011	Doctor of Philosophy Program in Medical Microbiology[a,b] Department of Microbiology, Faculty of Medicine, Khon Kaen University [a]Supported by a Royal Golden Jubilee PhD Scholarship from the Thailand Research Fund during 2005 – 2010 [b]Research training at Dalhousie University, Halifax, Nova Scotia, Canada. 2007
2011-2013	Post-doctoral Researcher in Division of Pharmacogenomics and Personalized Medicine, Department of Pathology, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Thailand Granted by Khun Poom Foundation, Princess Ubol Ratana Rajakanya

Dec 14, 2024

Present Positions

Instructor in Pharmacogenomics and Personalized Medicine Laboratory, Deapartment of Pathology, Faculty of Medicine, Ramathibodi hospital, Mahidol university

Research interests

Pharmacogenomics, Pharmacokinetics, Population Pharmacokinetics, Therapeutic Drug Monitoring

Research presentation

- Puangpetch A., Sermswan R.W., Rulitanond V. and Wongratanacheewin S. (2006, 28-30 March) "Use of CpG-liposome against *Burkholderia pseudomallei* infection in BALB/c mice" 30th Annual meeting of the Medical Technology Council, CharoenSri Grand Royal, Udonthani, Thailand. (Poster presentation)
- Puangpetch A, Sermswan R.W., Chareonsudjai S. and Wongratanacheewin S. (2007, 29-30 March) "Liposome-antigen complex as immunostimulatory agent against *Burkholderia pseudomallei* infection in BALB/c mice" The 23nd Annual meeting of Allergy and Immunology Society of Thailand, Radission Hotel, Bangkok, Thailand. (Poster presentation)
- Puangpetch A., Huang Y.Y., Anderson R., Sermswan R.W., Lulitanond V., Wongratanacheewin S. (2007, 21-23 November) "Use of a liposome-antigen-CpG oligodeoxynucleotide complex as immunostimulatory agent against *Burkholderia pseudomallei* infection in BALB/c mice" The 5th world melioidosis congress, Sofitel Raja Orchid, Khon Kaen, Thailand. (Oral presentation)
- Puangpetch A., Saengsot R., Huang Y.Y., Anderson R., Sermswan R.W., Wongratanacheewin S. (2009, 3-5 April) "Immunization of BALB/c mice against *Burkholderia pseudomallei* infection" RGJ-Ph.D. Congress X, Jomtien Palm Beach Resort Pattaya, Chonburi, Thailand. (Oral presentation)
- Puangpetch A., Wongratanacheewin S., Wongratanacheewin R., Anderson R., (2010, 22-27 September) "Immunization of BALB/c mice against *Burkholderia pseudomallei* infection" on the 14th International Congress of Immunology, Kobe, Japan. (Poster presentation and receiving the travel award to attend the Congress)

- Puangpetch A, Sukasem C., (2013, 22-27 August) “HLA-B allele frequencies in Thai population” on the 15th International Congress of Immunology, Milan, Italy. (Poster presentation)
- Puangpetch A., (2016, 15 July) “Pharmacogenomics Study of Anti-Psychotics” on the 5th Meeting of South East Asian Pharmacogenomics Research Network (SEAPharm) Symposium for Genetic and Genome-Guided Personalized Medicine in Asia, Bangkok, Thailand (Oral presentation)
- Puangpetch A., Na nakorn C., Unaharassamee W., Sukasem C., (2017, 1-4 April) “Influence of 5-HTR2C polymorphisms on metabolic syndromes in Thai schizophrenia patients” on the 25th European Congress of Psychiatry, Florence, Italy (Poster presentation)
- Puangpetch A., (2019, 9 Sep) “Pharmacogenomics study of Acute Lymphoblastic Leukemia” on the 8th Meeting of South East Pharmacogenomics Research Network (SEAPharm) Annual Meeting & Genomic Medicine Conference (GMC) 2019, Jakata, Indonesia (Oral presentation)
- Puangpetch A., (2023, 25 Sep) “Model-informed precision dosing of intravenous busulfan in Thai pediatrics patients” on the 21st International Congress of Therapeutic Drug Monitoring & Clinical Toxicology 2023, Oslo, Norway (Oral presentation).
- Puangpetch A., (2024, 16 Sep) “Unlocking Precision Medicine: Redefining Thiopurine S-Methyltransferase (TPMT) Activity Cutoffs for Predictive Testing in Azathioprine-Related Adverse Events” on the 22nd International Congress of Therapeutic Drug Monitoring & Clinical Toxicology 2024, Banff, Canada (Oral presentation).

Research grants

2015 – 2016

Research topic :

Pharmacogenomics study of Metabolic Syndrome in Thai Psychiatric patients treated with atypical antipsychotic drugs

Financial support : Government budget grant **(Principal Investigator)** (1,782,000 Baht)

2018

Research topic :

Pharmacogenomics of Thiopurine S-methyltransferase in Thai population: Genetics variation and enzyme activity for 6-mercaptopurine metabolism

Financial support : Ramathibodi hospital grant **(Principal Investigator)** (200,000 Baht)

2021

Research topic :

Pharmacogenomic of thiopurine drugs in Childhood Acute Lymphoblastic Leukemia

Financial support : Health Systems Research Institute (HSRI) **(Principal Investigator)**

(2,418,200 Baht)

2022

Research topic :

Pharmacogenomic of thiopurine drugs in Childhood Acute Lymphoblastic Leukemia

Financial support : Health Systems Research Institute (HSRI) **(Principal Investigator)**

(1,649,000 Baht)

2022

Research topic :

Population Pharmacokinetics of busulfan in Thai Pediatric Patients

Financial support : Franco-Thai Cooperation Programme in Higher Education and Research (Franco-Thai Mobility Programme / PHC SIAM) (Training at Pharmacology lab of the laboratoire de Biologie Medicale Oncologique – Institut Universitaire du Cancer de Tolouse, France. Oct 1, 2022 – Dec 26, 2022) (4,200 €)

2023

Research topic :

Differential Expression of Inflammatory Cytokines and Peripheral blood immune cell Receptors in Asthma, Chronic obstructive pulmonary diseases (COPD) and Asthma-COPD overlap syndrome (ACOS) as prognostic biomarker

Financial support : Franco-Thai Cooperation Programme in Higher Education and Research (Franco-Thai Mobility Programme / PHC SIAM) Institut Desbrest d'Épidémiologie et de Santé Publique (IDESP), Montpellier, France, Oct 11, 2023 – Oct 19, 2023 (1,000 €) **(Co-investigator)**

International Publications

1. **Puangpetch A**, Anderson R, Huang YY, Sermswan RW, Chaicumpa W, Sirisinha S, et al. Cationic liposomes extend the immunostimulatory effect of CpG oligodeoxynucleotide against Burkholderia pseudomallei infection in BALB/c mice. Clin Vaccine Immunol. 2012 May;19(5):675-83.

2. Srisawasdi P, Suwalak T, Sukasem C, Chittamma A, Pocathikorn A, Vanavanan S, **Puangpetch A**, et al. Small-dense LDL cholesterol/large-buoyant LDL cholesterol ratio as an excellent marker for indicating lipodystrophy in HIV-infected patients. Am J Clin Pathol. 2013 Oct;140(4):506-15.

3. Sukasem C, Chamnanphon M, Koomdee N, **Puangpetch A**, Santon S, Jantararoungtong T, et al. High plasma efavirenz concentration and CYP2B6 polymorphisms in Thai HIV-1 infections. Drug Metab Pharmacokinet. 2013;28(5):391-7.

4. Sukasem C, Tunthong R, Chamnanphon M, Santon S, Jantararoungtong T, Koomdee N, **Puangpetch A**, et al. CYP2C19 polymorphisms in the Thai population and the clinical response to clopidogrel in patients with atherothrombotic-risk factors. Pharmgenomics Pers Med. 2013;6:85-91.

5. Tan-Kam T, Suthisisang C, Pavasuthipaisit C, Limsila P, **Puangpetch A**, Sukasem C. Importance of pharmacogenetics in the treatment of children with attention deficit hyperactive disorder: a case report. Pharmgenomics Pers Med. 2013;6:3-7.

6. **Puangpetch A**, Anderson R, Huang YY, Saengsot R, Sermswan RW, Wongratanacheewin S. Comparison of the protective effects of killed Burkholderia pseudomallei and CpG oligodeoxynucleotide against live challenge. Vaccine. 2014 Oct 14;32(45):5983-8.

7. **Puangpetch A**, Koomdee N, Chamnanphol M, Jantararoungtong T, Santon S, Prommas S, et al. HLA-B allele and haplotype diversity among Thai patients identified by PCR-SSOP: evidence for high risk of drug-induced hypersensitivity. Front Genet. 2014;5:478.

8. Sukasem C, Atasilp C, Chansriwong P, Chamnanphon M, **Puangpetch A**, Sirachainan E. Development of Pyrosequencing Method for Detection of UGT1A1 Polymorphisms in Thai Colorectal Cancers. J Clin Lab Anal. 2014 Dec 26.

9. Sukasem C, Chamnanphon M, Koomdee N, Santon S, Jantararoungtong T, Prommas S, **Puangpetch A**, et al. Pharmacogenetics and clinical biomarkers for subtherapeutic plasma efavirenz concentration in HIV-1 infected Thai adults. Drug Metab Pharmacokinet. 2014;29(4):289-95.

10. Sukasem C, Manosuthi W, Koomdee N, Santon S, Jantararoungtong T, Prommas S, **Puangpetch A**, et al. Low level of efavirenz in HIV-1-infected Thai adults is associated with the CYP2B6 polymorphism. Infection. 2014 Jun;42(3):469-74.

11. Sukasem C, **Puangpetch A**, Medhasi S, Tassaneeyakul W. Pharmacogenomics of drug-induced hypersensitivity reactions: challenges, opportunities and clinical implementation. Asian Pac J Allergy Immunol. 2014 Jun;32(2):111-23.

12. Bushyakanist A, **Puangpetch A**, Sukasem C, Kiertiburanakul S. The use of pharmacogenetics in clinical practice for the treatment of individuals with HIV infection in Thailand. Pharmgenomics Pers Med. 2015;8:163-70.

13. Damronglerd P, Sukasem C, Thipmontree W, **Puangpetch A**, Kiertiburanakul S. A pharmacogenomic prospective randomized controlled trial of CYP2B6 polymorphisms and efavirenz dose adjustment among HIV-infected Thai patients: a pilot study. Pharmgenomics Pers Med. 2015;8:155-62.

14. Hongkaew Y, Ngamsamut N, **Puangpetch A**, Vanwong N, Srisawasdi P, Chamnanphon M, et al. Hyperprolactinemia in Thai children and adolescents with autism spectrum disorder treated with risperidone. Neuropsychiatr Dis Treat. 2015;11:191-6.

15. **Puangpetch A**, Suwannarat P, Chamnanphol M, Koomdee N, Ngamsamut N, Limsila P, et al. Significant Association of HLA-B Alleles and Genotypes in Thai Children with Autism Spectrum Disorders: A Case-Control Study. Dis Markers. 2015;2015:724935.

16. Suwalak T, Srisawasdi P, **Puangpetch A**, Santon S, Koomdee N, Chamnanphon M, et al. Polymorphisms of the ApoE (Apolipoprotein E) Gene and Their Influence on Dyslipidemia in HIV-1-Infected Individuals. Jpn J Infect Dis. 2015 Jan 26;68(1):5-12.

17. Atasilp C, Chansriwong P, Sirachainan E, Reungwetwattana T, Chamnanphon M, **Puangpetch A**, et al. Correlation of UGT1A1(*)28 and (*)6 polymorphisms with irinotecan-induced neutropenia in Thai colorectal cancer patients. Drug Metab Pharmacokinet. 2016 Feb;31(1):90-4.

18. Chuwongwattana S, Jantararoungtong T, Chitasombat MN, **Puangpetch A**, Prommas S, Dilokpattanamongkol P, et al. A prospective observational study of CYP2C19 polymorphisms and voriconazole plasma level in adult Thai patients with invasive aspergillosis. Drug Metab Pharmacokinet. 2016 Apr;31(2):117-22.

19. Medhasi S, Pasomsub E, Vanwong N, Ngamsamut N, **Puangpetch A**, Chamnanphon M, et al. Clinically relevant genetic variants of drug-metabolizing enzyme and transporter genes detected in Thai children and adolescents with autism spectrum disorder. Neuropsychiatr Dis Treat. 2016;12:843-51.

20. Ngamsamut N, Hongkaew Y, Vanwong N, Srisawasdi P, **Puangpetch A**, Chamkrachchangpada B, et al. 9-Hydroxyrisperidone-induced Hyperprolactinaemia in Thai Children and Adolescents with Autism Spectrum Disorder. Basic Clin Pharmacol Toxicol. 2016 Feb 16.

21. Sukasem C, Atasilp C, Chansriwong P, Chamnanphon M, **Puangpetch A**, Sirachainan E. Development of Pyrosequencing Method for Detection of UGT1A1 Polymorphisms in Thai Colorectal Cancers. J Clin Lab Anal. 2016 Jan;30(1):84-9.

22. Sukasem C, Hongkaew Y, Ngamsamut N, **Puangpetch A**, Vanwong N, Chamnanphon M, et al. Impact of Pharmacogenetic Markers of CYP2D6 and DRD2 on Prolactin Response in Risperidone-Treated Thai Children and Adolescents With Autism Spectrum Disorders. J Clin Psychopharmacol. 2016 Apr;36(2):141-6.

23. Vanwong N, Ngamsamut N, Hongkaew Y, Nuntamool N, **Puangpetch A**, Chamnanphon M, et al. Detection of CYP2D6 polymorphism using Luminex xTAG technology in autism spectrum disorder: CYP2D6 activity score and its association with risperidone levels. Drug Metab Pharmacokinet. 2016 Apr;31(2):156-62.

24. Vanwong N, Ngamsamut N, Medhasi S, **Puangpetch A**, Chamnanphon M, Tan-Kam T, et al. Impact of CYP2D6 Polymorphism on Steady-State Plasma Levels of Risperidone and 9-

Hydroxyrisperidone in Thai Children and Adolescents with Autism Spectrum Disorder. J Child Adolesc Psychopharmacol. 2016 Jan 18.

25. Wongprikorn A, Sukasem C, **Puangpetch A**, Numthavej P, Thakkinstian A, Kiertiburanakul S. Effects of Pitavastatin on Lipid Profiles in HIV-Infected Patients with Dyslipidemia and Receiving Atazanavir/Ritonavir: A Randomized, Double-Blind, Crossover Study. *PloS one.* 2016;11(6):e0157531.

26. Vanwong N, Prommas S, **Puangpetch A**, et al. Development and Validation of Liquid Chromatography/Tandem Mass Spectrometry Analysis for Therapeutic Drug Monitoring of Risperidone and 9-Hydroxyrisperidone in Pediatric Patients with Autism Spectrum Disorders. *J Clin Lab Anal.* 2016.

27. Sukasem C, Jantararoungtong T, Kuntawong P, et al. HLA-B (*) 58:01 for Allopurinol-Induced Cutaneous Adverse Drug Reactions: Implication for Clinical Interpretation in Thailand. *Frontiers in pharmacology.* 2016;7:186.

28. **Puangpetch A**, Vanwong N, Nuntamool N, Hongkaew Y, Chamnanphon M, Sukasem C. CYP2D6 polymorphisms and their influence on risperidone treatment. *Pharmacogenomics and personalized medicine.* 2016;9:131-147.

29. Prommas S, **Puangpetch A**, Jenjirattithigarn N, et al. Development and Validation of Voriconazole Concentration by LC-MS-MS: Applied in Clinical Implementation. *Journal of clinical laboratory analysis.* 2017;31(1).

30. Puangpetch A, Unaharassamee W, Jiratjintana N, Koomdee N, Sukasem C. Genetic polymorphisms of *HTR2C*, *LEP* and *LEPR* on metabolic syndromes in patients treated with atypical antipsychotic drugs. The Journal of pharmacy and pharmacology. 2018;70(4):536-42.

31. Jenjirattithigarn N, Worachat N, Horsuwan S, **Puangpetch A**, Prempunpong C, Khongkhatithum C, et al. Determination of plasma Levetiracetam level by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS-MS) and its application in pharmacokinetics studies in neonates. Journal of chromatography B, Analytical technologies in the biomedical and life sciences. 2018;1085:13-20.

32. Wiriyakosol N, **Puangpetch A**, Manosuthi W, Tomongkon S, Sukasem C, Pinthong D. A LC/MS/MS method for determination of tenofovir in human plasma and its application to toxicity monitoring. Journal of chromatography B, Analytical technologies in the biomedical and life sciences. 2018;1085:89-95.

33. Thongnak C, Hnoonual A, Tangviriyapaiboon D, Silvilairat S, **Puangpetch A**, Pasomsub E, et al. Whole-Exome Sequencing Identifies One De Novo Variant in the FGD6 Gene in a Thai Family with Autism Spectrum Disorder. International journal of genomics. 2018:8231547.

34. Hongkaew Y, Medhasi S, Pasomsub E, Ngamsamut N, **Puangpetch A**, Vanwong N, et al. UGT1A1 polymorphisms associated with prolactin response in risperidone-treated children and adolescents with autism spectrum disorder. The pharmacogenomics journal. 2018;18(6):740-8.

35. Chamnanphon M, Gaedigk A, Vanwong N, Nuntamool N, Hongkaew Y, **Puangpetch A**, et al. CYP2D6 genotype analysis of a Thai population: platform comparison. Pharmacogenomics. 2018;19(12):947-60.

36. **Puangpetch A**, Srisawasdi P, Unaharassamee W, Jiratjintana N, Vanavanan S, et al. Association between polymorphisms of *LEP*, *LEPR*, *DRD2*, *HTR2A* and *HTR2C* genes and risperidone or clozapine induced hyperglycemia. Pharmacogenomics and Personalized Medicine. 2019;(12):155-166.

37. **Puangpetch A**, Limrungsikul A, Prommas S, Rukthong P, Sukasem C. Development and validation of a liquid chromatography-tandem mass spectrometry method for determination of ibuprofen in human plasma. Clinical Mass Spectrometry. 2020; (15):6-12.

38. **Puangpetch A**, Tiyasirichokchai R, Pakakasama S, Wiwattanakul S, Anurathapan U, Hongeng S, et al. NUDT15 genetic variants are related to thiopurine-induced neutropenia in Thai children with acute lymphoblastic leukemia. Pharmacogenomics. 2020;21(6):403-10.

39. Chuwongwattana S, Jantararoungtong T, Prommas S, Medhasi S, **Puangpetch A**, Sukasem C. Impact of CYP2C19, CYP3A4, ABCB1, and FMO3 genotypes on plasma voriconazole in Thai patients with invasive fungal infections. Pharmacology research & perspectives. 2020;8(6):e00665.

40. Vanwong N, Ngamsamut N, Nuntamool N, Hongkaew Y, Sukprasong R, **Puangpetch A**, et al. Risperidone-Induced Obesity in Children and Adolescents with Autism Spectrum Disorder: Genetic and Clinical Risk Factors. Frontiers in pharmacology. 2020;11:565074.

41. Vanwong N, **Puangpetch A**, Unaharassamee W, Jiratjintana N, Na Nakorn C, Hongkaew Y, et al. Effect of 5-HT2C receptor gene polymorphism (HTR2C-759C/T) on metabolic adverse effects in Thai psychiatric patients treated with risperidone. Pharmacoepidemiology and drug safety. 2021;30(6):806-13.

42. Vanwong N, Sukasem C, Unaharassamee W, Jiratjintana N, Na Nakorn C, Hongkaew Y, **Puangpetch A**. Associations of the SREBF2 Gene and INSIG2 Polymorphisms with Obesity and Dyslipidemia in Thai Psychotic Disorder Patients Treated with Risperidone. Journal of personalized medicine. 2021;11(10).

43. Nguyen AH, Biswas M, **Puangpetch A**, Prommas S, Pakakasama S, Anurathapan U, et al. Effect of GSTA1 Variants on Busulfan-Based Conditioning Regimen Prior to Allogenic Hematopoietic Stem-Cell Transplantation in Pediatric Asians. Pharmaceutics. 2022;14(2).

44. Choochuay K, Kunhapan P, **Puangpetch A**, et al. Associations of PNPLA3 and LEP genetic polymorphisms with metabolic-associated fatty liver disease in Thai people living with human immunodeficiency virus. World Journal of Hepatology. 2024;16(3).

45. **Puangpetch A**, Thomas F, Anurathapan U, Pakakasama S, Hongeng S, Rachanakul J, et al. Model-Informed Precision Dosing of Intravenous Busulfan in Thai Pediatrics Undergoing Hematopoietic Stem Cell Transplantation. Ther Drug Monit. 2024, 46(6), pp. 778–785.