CURRICULUM VITAE

Name: Dr. Apichaya Puangpetch

Present Position: Lecturer

Office Address:

Department of Pathology
Ramathibodi Hospital, Mahidol University
270 Rama VI Road, Ratchathewi,
Bangkok 10400, Thailand
E-mail: apichaya.pua@mahidol.ac.th

Phone: (+66) 2354-7277
Fax: (+66) 2354-7266
Mobile Phone: 081-700-1625

EDUCATION:

Degree/Certificate	Graduate Year	Institute	Country
Bachelor Degree in Microbiology	2004	Department of Microbiology, Faculty of Science, Khon Kaen University	Thailand
Doctor of Philosophy Program in Medical Microbiology	2011	Department of Microbiology, Faculty of Science, Khon Kaen University	Thailand

PROFESSIONAL EXPERIENCE:

Title of position	Duration	Institute
Post-doctoral Researcher	*May 2011- February2013*	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

Project title:

Pharmacogenomics for autistic child

RESEARCH INTERESTS:

1. Pharmacogenomics in drug metabolizing enzyme, drug transporter and drug target

INTERNATIONAL PUBLICATION: (เรียงจากปัจจุบัน-อดีต)

1. 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 Oct 3;8:155-162. eCollection 2015.
2. 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 Nov 5;8:163-170. eCollection 2015.
3. Hongkaew Y, Ngamsamut N, **Puangpetch A**, Vanwong N, Srisawasdi P, Chamnanphon M, Chamkrachchangpada B, Tan-kam T, Limsila P, Sukasem C,Serum Prolactin level in Thai Children and Adolescents with Autistic Spectrum Disorder on Long Term Risperidone Treatments. Thai J Pharmacol. 2015; 36(1): 26-35.
4. Vanwong N, Medhasi S, Pongchaidecha M, Ngamsamut N, **Puangpetch A**, Chamnanphon M, Chamkrachchangpada B, Tan-kam T, Hongkaew Y, Limsila P, Sukasem C.Pharmacogenetics and Clinical Risk Factors for Risperidone-Related

Weight Gain in Thai Autistic Spectrum Disorder Patients. Thai J Pharmacol. 2015; 36(1): 13-25.

5. **Puangpetch A**, Koomdee N, Chamnanphol M, Jantararoungtong T, Santon S, Prommas S, Hongkaew Y, Sukasem C.HLA-B allele and haplotype diversity among Thai patients identified by PCR-SSOP: evidence for high risk of drug-induced hypersensitivity.Front Genet. 2015 Jan 22;5:478. doi: 10.3389/fgene.2014.00478. eCollection 2014
6. Hongkaew Y, Ngamsamut N, **Puangpetch A**, Vanwong N, Srisawasdi P, Chamnanphon M, Chamkrachchangpada B, Tan-Kam T, Limsila P, Sukasem C.Hyperprolactinemia in Thai children and adolescents with autism spectrum disorder treated with risperidone.Neuropsychiatr Dis Treat. 2015 Jan 22;11:191-6. doi: 10.2147/NDT.S76276. eCollection 2015.
7. 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.
8. Sukasem C, Chamnanphon M, Koomdee N, Santon S, Jantararoungtong T, Prommas S, **Puangpetch A**, Manosuthi W.Pharmacogenetics and clinical biomarkers for subtherapeutic plasma efavirenz concentration in HIV-1 infected Thai adults.Drug Metab Pharmacokinet. 2014 Jan 28. [Epub ahead of print]
9. Sukasem C, Manosuthi W, Koomdee N, Santon S, Jantararoungtong T, Prommas S, Chamnanphol M, **Puangpetch A**, Sungkanuparph S.Low level of efavirenz in HIV-1-infected Thai adults is associated with the CYP2B6 polymorphism.Infection. 2014 Jun;42(3):469-74. doi: 10.1007/s15010-013-0560-6.
10. Srisawasdi P, Suwalak T, Sukasem C, Chittamma A, Pocathikorn A, Vanavanan S, **Puangpetch A**, Santon S, Chantratita W, Kiertiburanakul S, Kroll MH. 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. doi: 10.1309/AJCPE5I3KELTBXEJ.

11. Sukasem C, Tunthong R, Chamnanphon M, Santon S, Jantararoungtong T, Koomdee N, Prommas S, **Puangpetch A**, Vathesatogkit P.CYP2C19 polymorphisms in the Thai population and the clinical response to clopidogrel in patients with atherothrombotic-risk factors. Pharmgenomics Pers Med. 2013 Aug 22;6:85-91. doi: 10.2147/PGPM.S42332. eCollection 2013.

12. 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. doi: 10.2147/PGPM.S36782. Epub 2013 Jan 11

13. Sukasem C, Chamnanphon M, Koomdee N, **Puangpetch A**, Santon S, Jantararoungtong T, Prommas S, Chantratita W, Manosuthi W.High plasma efavirenz concentration and CYP2B6 polymorphisms in Thai HIV-1 infections. Drug Metab Pharmacokinet. 2013;28(5):391-7. Epub 2013 Feb 12.

14. **Puangpetch A**, Anderson R, Huang YY, Sermswan RW, Chaicumpa W, Sirisinha S, Wongratanacheewin S. 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. doi: 10.1128/CVI.05545-11. Epub 2012 Mar 21.

15. Tan-kam T, Suthisisang C, Pavasuthipaisit C, Limsila P, **Puangpetch A.** and Sukasem C. 2013. Use of Pharmacogenetics in the Treatment of Children with Attention Deficit Hyperactive Disorder. Pharmacogenomics and Personalized Medicine. 16(1):3-7.

ABSTRACT:

Melioidosis is a severe disease caused by the Gram-negative bacterium *Burkholderia pseudomallei*. Previously we showed that pretreatment of mice with CpG oligodeoxynucleotide (CpG ODN) 2 to 10 days prior to *B. pseudomallei* challenge conferred as high as 90% protection, but this window of protection was rather short. In the present study, we therefore aimed to

prolong this protective window and to gain further insight into the mechanisms underlying the protection induced by CpG ODN against *B. pseudomallei* infection. It was found that the CpG ODN incorporated with cationic liposomes (DOTAP) but not zwitterionic liposomes (DOPC) provided complete protection against bacterial challenge. Although marked elevation of gamma interferon (IFN-γ) was found in the infected animals 2 days postinfection, it was significantly lowered by the DOTAP-plus-CpG ODN pretreatment. When appropriately activated, the phagocytic index and oxidative burst responses of neutrophils appeared not to be elevated. However, macrophages from stimulated mice showed higher levels of nitric oxide production and exhibited higher levels of antimicrobial activities, judging from lower numbers of viable intracellular bacteria. Taken together, our results demonstrate that DOTAP can enhance the protective window period of CpG ODN to at least 30 days and provide 100% protection against *B. pseudomallei* infection. The protective effect of DOTAP plus CpG ODN could provide an alternative approach to preventing this lethal infection, for which no vaccine is yet available.

2. Tan-kam T, Suthisisang C, Pavasuthipaisit C, Limsila P, **Puangpetch A.** and Sukasem C. 2013. Use of Pharmacogenetics in the Treatment of Children with Attention Deficit Hyperactive Disorder. Pharmacogenomics and Personalized Medicine. 16(1):3-7.

ABSTRACT :

This case report highlights the importance of pharmacogenetic testing in the treatment of attention deficit hyperactive disorder (ADHD). A 6-year-old boy diagnosed with ADHD was prescribed methylphenidate 5 mg twice daily (7 am and noon) and the family was compliant with administration of this medication. On the first day of treatment, the patient had an adverse reaction, becoming disobedient, more mischievous, erratic, resistant to discipline, would not go to sleep until midnight, and had a poor appetite. The All-In-One PGX (All-In-One Pharmacogenetics for Antipsychotics test for *CYP2D6*, *CYP2C19*, and *CYP2C9*) was performed using microarray-based and real-time polymerase chain reaction techniques. The genotype of our patient was identified to be *CYP2D6*2/*10*, with isoforms of the enzyme consistent with a predicted cytochrome P450 2D6 intermediate metabolizer phenotype. Consequently, the physician adjusted the methylphenidate dose to 2.5 mg once daily in the morning. At this dosage, the patient had a good response without any further adverse reactions. Pharmacogenetic testing should be included in the management plan for ADHD. In this case, cooperation between the medical team and the patients' relatives was key to successful treatment.

---

3. Sukasem C, Chamnanphon M, Koomdee N, **Puangpetch A**, Santon S, Jantararoungtong T, Prommas S, Chantratita W, Manosuthi W. 2013. High Plasma Efavirenz Concentration and CYP2B6 Polymorphisms in Thai HIV-1 Infections. Drug Metabolism and Pharmacokinetics. 2013 Feb 12

ABSTRACT :

This case report highlights the importance of pharmacogenetic testing in the treatment of attention deficit hyperactive disorder (ADHD). A 6-year-old boy diagnosed with ADHD was prescribed methylphenidate 5 mg twice daily (7 am and noon) and the family was compliant with administration of this medication. On the first day of treatment, the patient had an adverse reaction, becoming disobedient, more mischievous, erratic, resistant to discipline, would not go to sleep until midnight, and had a poor appetite. The All-In-One PGX (All-In-One Pharmacogenetics for Antipsychotics test for *CYP2D6*, *CYP2C19*, and *CYP2C9*) was performed using microarray-based and real-time polymerase chain reaction techniques. The genotype of our patient was identified to be *CYP2D6*2/*10*, with isoforms of the enzyme consistent with a predicted cytochrome P450 2D6 intermediate metabolizer phenotype. Consequently, the physician adjusted the methylphenidate dose to 2.5 mg once daily in the morning. At this dosage, the patient had a good response without any further adverse reactions. Pharmacogenetic testing should be included in the management plan for ADHD. In this case, cooperation between the medical team and the patients' relatives was key to successful treatment.

4. Srisawasdi P, Suwalak T, Sukasem C, Chittamma A, Pocathikorn A, Vanavanan S, **Puangpetch A**, Santon S, Chantratita W, Kiertiburanakul S, Martin H Kroll. Small-Dense LDL Cholesterol/Large-Buoyant LDL Cholesterol Ratio as an Excellent Marker for Indicating Lipodystrophy in HIV-Infected Patient. 2013. American Journal of Clinical Pathology (Submitted)

ABSTRACT :

Advance treatment with highly active antiretroviral therapy displays HIV-associated lipodystrophy. This study examined whether the lipids parameters were predicting factors for lipodystrophy. Whole-body fat compositions of HIV-positive patients receiving stavudine containing antiretroviral regimens (n=79) were determined. Lipodystrophy was defined as ratio of trunk-fat mass/lower limb-fat mass >2.28. Blood samples were analyzed for total cholesterol

(TC), triglycerides, low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C), small-dense LDL-C (sdLDL-C), apoAI, apoB, lipoprotein(a), and CD4 cell counts. Large-buoyant LDL-C (lbLDL-C) was calculated (LDL-C minus sdLDL-C). Twenty-six patients were classified into lipodystrophy. Mean of triglycerides, HDL-C, sdLDL-C, apoB, TC/HDL-C, apoB/apoAI and sdLDL-C/lbLDL-C showed significant differences between patients with and without lipodystrophy (P <0.02). Using logistic regression analysis, sdLDL-C/lbLDL-C was identified significant predictor of lipodystrophy (P <0.001). At ratio of 0.554, the odds ratio is 17.8 with a likelihood ratio of 5.5. The sdLDL-C/lbLDL-C ratio is an excellent marker for indicating lipodystrophy in HIV-infected patients.