Busan South Korea IUPHAR Mentoring Center

Site
Department of Clinical Pharmacology and Pharmacogenomics Research Center, Inje University College of Medicine

Address
# 633-165, Gaegum-Dong, Jin-Gu
Busan 614-735, South Korea

Contact
email to Prof. Jae Gook Shin phshinjg@gmail.com

Affiliations
• Department of Pharmacology/ Department of Clinical Pharmacology, Inje University College of Medicine
• Pharmacogenomics Research Center, Inje University
• Biomarker Research Center for Personalized Therapy
• Inje University Busan Paik Hospital, Global Center of Excellence in Clinical Trials

Introduction
Department of Pharmacology and Department of Clinical Pharmacology are involved in the research and practice of optimum drug use in the University and affiliated Paik hospital as a leading organization in several pharmacology related fields, such as drug metabolism/drug transporters/drug interaction, Pharmacokinetic and pharmacodynamics and its analysis, pharmacogenomics and quantitative pharmacology, and many other area of xenobiotics science from molecular to clinical implementation.

The Pharmacogenomics Research Center (PGRC), Korea’s only designated pharmacogenomics research institute, and is widely recognised as frontier research institute in the field of PGx and personalized pharmacotherapy in the global community. With cutting edge technology platforms and strong government support, we are running many projects related biomarker researches for the personalized precision medicine, sponsored clinical trials for drug development sponsored by various Korean government and pharmaceutical industry in Korea.

Key individuals (and expertise)
Prof. Jae-Gook Shin MD PhD, Pharmacogenomics/Biomarker Research for Personalized Pharmacotherapy, Drug Metabolism/Drug Transporters/Drug Interaction, PK/PD, Clinical Trial in Drug Development and other Clinical Pharmacology Programs.
Prof. Dong-Hyun Kim PhD, Drug Metabolism/ Pharmacokinetics, Drug interactions, Metabolomics
Prof. Eun-Young Kim MD PhD, Biomedical Informatics, TDM, Molecular Diagnosis in Pharmacogenomics
Prof. Jin Ah Jung, MD PhD, Clinical Pharmacology, Quantitative pharmacology
Prof. Su-Jun Lee, PhD., Functional Genomics, Pharmacogenomics, Biochemical Toxicology
Prof. Ho-Sook Kim, PhD, General Clinical Pharmacology,
Prof. Min-Kyong Oh, PhD, Bio-statistics, Clinical trial design, Clinical Trial statistical Methodology
Dr. Min-Jong Kim, PhD, DMPK/ Metabolism
Dr. Shin-Ho Jong, PhD, DMPK/ Transporters
Dr. Hye-Eun Jong, PhD, Pharmacogenomics and method development

Research Interest and Service in Hospital

• Pharmacogenomics for Personalized Precision Medicine/ Pharmacotherapy
• Ethnic Translation of Pharmacogenomics: International Collaboration
• Pharmacometabolomics in drug induced organ toxicity
• Drug Metabolism/ Transporters and Pharmacokinetics
• Drug Interaction: Drug-Drug, Herb-Drug etc. in vitro to in vivo
• Quantitative Pharmacology: PK/PD modelling and simulation
• Discovery of candidate compounds with pharmacological actions
• Phase I Clinical Trials and regulatory science in drug development
• Discovery and development of genotyping tools for the personalized medicine
• Personalised prescription of anti-tuberculosis drug – regional and international collaboration project

Technology platform and facilities

Genomics Laboratory | Pharmacogenomics Core Lab
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AB1 7900HT Real-time PCR, Pyrosequencer, ABI 3130 Genetic Analyser, Teccan auto prep, Phosphoimager, Ultracentrifuge, Gel Doc. etc.

Metabolomics Lab. | DMPK Core Lab.
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API 3000, 4000 LC/MS/MS (x9): 5500 LC/MS/MS Q-TOF, Qtrap 4000, Agilent 1100 UV/FLD, Agilent 6410, 6530 TOF/MS, HPLC, UPLC, etc.

Biomedical Resource Bank
Deep freezer, Nano drop, 2D bar-code reader

Biomedical Informatics Team | DB Server, UPS

Opportunities on offer

• Email/Skype advice on clinical research study design
• Email/Skype advice on research in our areas of expertise
• Email/Skype advice on educational/curricular plans
• Email/Skype advice on safe prescribing
• Potential relevant collaborations in areas of mutual interest
• Willingness to host visitors/fellowships in areas of mutual interest
• Full scholarship for appropriate international PhD candidates

Selected Publications

1. Parvez MM, Jung JA, Shin HJ, Kim DH, Shin JG. Characterization of 22 anti-tuberculosis drugs for the inhibitory interaction potential on organic anionic transporter polypeptides (OATPs) mediated uptake. Antimicrobial Agents and Chemotherapy. 2016.03; Epub
9. Seo KA, Bae SK, Choi YK, Choi CS, Liu KH, Shin JG, Metabolism of 1'- and 4'-hydroxymidazolam by glucuronidase conjugation is largely mediated by UDP-glucuronosyl transferases 1A4, 2B4, and 2B7, Drug Metab Dispos, 2010; 38(11):2007-13