



Masato Homma

Faculty of Medicine

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Theme

- Pharmacokinetic and pharmacogenetic research to support precision dosing in clinical practice

Keyword Drug-drug interactions, Pharmacogenetics, Therapeutic drug monitoring

Highlight

Major Scientific Interests of the Group

Pharmacokinetic and pharmacogenetic analyses for evaluating drug disposition, drug-drug interactions, drug efficacy, and drug toxicity in relation to drug metabolizing enzymes and drug transporters.

Pharmacokinetic evaluation of Kampo-medicine (herbal remedy).

Projects for Regular Students in Doctoral or Master's Programs

- 1) Pharmacokinetic analysis and therapeutic drug monitoring of anti-neoplastic agents, antiarrhythmic agents, thrombopoietin receptor agonist and immunosuppressive agents
- 2) Pharmacogenetic analysis of anti-arrhythmic

agents and immunosuppressive agents

3) Evaluation of adverse effect caused by Kampo-medicines containing licorice

Study Programs for Short Stay Students (one week – one trimester)

- 1) Development of assay methods for monitoring blood drug concentration
- 2) Evaluation of genetic polymorphisms associated with drug metabolism and transport

Other Faculty Members

Associate Professor Kosuke Doki

Applications and Prospects

- Dose adjustment using the measurement of blood drug concentration in drug therapy.
- Effective utilization of pharmacogenetic information for dose individualization.

Literature, intellectual property, work

- Doki K, Shirayama Y, Sekiguchi Y, Aonuma K, Kohda Y, Homma M. Optimal sampling time and clinical implication of the SCN5A promoter haplotype in propafenone therapeutic drug monitoring. *Eur J Clin Pharmacol.* 74: 1273-1279, 2018.
- Ohgami M, Kaburagi T, Kurosawa A, Doki K, Shiozawa T, Hizawa N, Homma M. Effects of Proton Pump Inhibitor Coadministration on the Plasma Concentration of Erlotinib in Patients With Non-Small Cell Lung Cancer. *Ther Drug Monit.* 40: 699-704, 2018.
- Ohgami M, Bando H, Ishiguro H, Tsuda M, Toriguchi N, Aogi K, Toi M, Masuda N, Mitsuhashi S, Kurosawa A, Homma M. Effect of dose timing on the blood concentration of lapatinib in patients with breast cancer. *Ann Oncol.* 28: 2888-2889, 2017.