

## **Division of Practical Pharmacy**

### **Department of Practical Pharmacy**

#### **Outline**

The "6-year education program in pharmacy" has started in 2006 in Japan. In order to actualize those requirements, it is indispensable to provide opportunities of extensive cultural educations, occasions of interpersonal communications. Due to the advancement of pharmacy education in response to the change of concepts on pharmacists, Department of practical pharmacy was established in 2006. The aim of this establishment is for students to work as a part of a medical team and expand their knowledge, ability, and attitude towards working in a clinical environment. All students of the school of pharmaceutical sciences start training toward their five-month clinical training placement. Our research themes are related to clinical issues and following research projects are currently ongoing.

Our research interests are shown below.

#### **Faculty members**

Professor	Takeshi HIRANO, Ph.D., JSPHCS-Certified Senior Pharmacist (JSP)
Associate professor	Eiichi YOSHIDA, Ph.D., pharmacist
Assistant professor	Akira NAKAYAMA, Ph.D., pharmacist
Assistant professor	Wataru SAKURADA, Ph.D., pharmacist
Assistant professor	Moriaki HAYASAKA, Ph.D., JSPEN-Certified Pharmacist in Nutritional Support
Instructor	Takahiro YAMAMOTO

#### **Postgraduate students**

Fumiaki EGUCHI,  
Health Science University of Hokkaido Certified Pharmacist (18-0005)  
ICF (International Coach Federation) associate Certified Coach JCA –  
Medical Coach

#### **Main research in progress**

- 1) The mechanisms and regulation of placental nutrient transport.
- 2) Development of the interactive pharmaceutical education system.
- 3) Survey on disposal of medical waste at home.
- 4) Risk management in pharmacy.
- 5) School pharmacist and community pharmacy.
- 6) Development of e-Portfolio system in clinical teaching.
- 7) Visualization of educational effects of clinical teaching.
- 8) A simple suspension method for the oral administration.
- 9) Pathologic analysis in symptoms of disease.
- 10) Influence of taking medicine during pregnancy on fetus.
- 11) Optimizing of supportive care in cancer chemotherapy.
- 12) Nutritional assessment using stable isotope ratios of carbon and nitrogen in the scalp hair.

Our laboratory will continue to provide new and important evidences that may support appropriate pharmaceutical care.

## Current publications

\* Ogasawara H, Hayasaka M, Maemoto A, Furukawa S, Ito T, Kimura O, Endo T, Levels of major and trace metals in the scalp hair of Crohn's disease patients: correlations among transition metals. *Bio Metals.*, 34(1), 197-210, 2021. IF 2.479

Nakamura K, Tanaka T, Masumori N, Miyamoto A, Hirano T, Evaluation of proteinuria using urine protein : Creatine ratio in treatment with molecular targeted agents for advanced renal cell carcinoma. *Biol Pharm Bull.*, 43(10), 1506-1510, 2020. IF 1.863

\* Ogasawara H, Hayasaka M, Maemoto A, Furukawa S, Ito T, Kimura O, Endo T, Stable isotope ratios of carbon, nitrogen and selenium concentration in the scalp hair of Crohn's disease patients who ingested the elemental diet Elental<sup>®</sup>. *Rapid Commun. Mass Spectrom.*, 33, 41-48, 2019. IF 2.045

\* Hayasaka M, Ogasawara H, Hotta Y, Tsukagoshi K, Kimura O, Kura T, Tarumi T, Muramatsu H, Endo T, Nutritional assessment using stable isotope ratios of carbon and nitrogen in the scalp hair of geriatric patients who received enteral and parenteral nutrition formulas. *Clin. Nutr.*, 36, 1661-1668, 2017. IF 6.402

\* Ishiguro Y, Furugen A, Narumi K, Nishimura A, Hirano T, Kobayashi M, Iseki K, Valproic acid transport in the choriocarcinoma placenta cell line JEG-3 proceeds independently of the proton-dependent transporters MCT1 and MCT4., *Drug Metab Pharmacokinet.* 33(6), 270-274, 2018. IF 1.874

\* Yamamoto K, Shichiri H, Ishida T, Kaku K, Nishioka T, Kume M, Makimoto H, Nakagawa T, Hirano T, Bito T, Nishigori C, Yano I, Hirai M, Effects of ascorbyl-2-phosphate magnesium on human keratinocyte toxicity and pathological changes by sorafenib., *Bio Pharm Bull.*, 40(9): 1530-1536 2017 . IF 1.694

\* Shichiri H, Yamamoto K, Tokura M, Ishida T, Uda A, Bito T, Nishigori C, Nakagawa T, Hirano T, Yano I, Hirai M, Prostaglandin E1 reduces the keratinocyte toxicity of sorafenib by maintaining signal transducer and activator of transcription 3 (STAT3) activity and enhancing the cAMP response element binding protein (CREB) activity., *Biochem Biophys Res Commun*, 485(2):227-233 2017 . IF 2.559

\* Yamamoto K, Ioroi T, Kanaya K, Shinomiya K, Komoto S, Hirata S, Harada K, Watanabe A, Suno M, Nishioka T, Kume M, Makimoto H, Nakagawa T, Hirano T, Miyake H, Fujisawa M, Hirai M, STAT3 polymorphism rs4796793 may be a predictive factor of tumor response to multiple tyrosine kinase inhibitors in metastatic renal cell carcinoma in Japanese population. *Med. Oncol.*, 33(3):24 2016, IF 2.634

\* Furugen A, Ishiguro Y, Kobayashi M, Narumi K, Nishimura A, Hirano T, Iseki K, Involvement of l-type amino acid transporter 1 in the transport of gabapentin into human placental choriocarcinoma cells. *Reprod. Toxicol.*, 67:48-55, 2016. IF 2.850

\* Kawara F, Fujita T, Morita Y, Uda A, Masuda A, Saito M, Ooi M, Ishida T, Kondo Y, Yoshida S, Okuno T, Yano Y, Yoshida M, Kutsumi H, Hayakumo T, Yamashita K, Hirano T, Hirai M, Azuma T

Factors associated with residual gastroesophageal reflux disease symptoms in patients receiving proton pump inhibitor maintenance therapy. *World J Gastroenterol.*, 23(11):2060-2067 2017. IF 3.365

\* Sakurada W, Shimoyama T, Itoh K, Kobayashi M, Solubility estimation for drugs treated with the simple suspension method using available dissolution test profiles. *Jpn J Health Care Sci.*, 41(8), 540-549, 2015.

\* Mizumoto A, Yamamoto K, Nakayama Y, Takara K, Nakagawa T, Hirano T, Hirai M, Induction of epithelial-mesenchymal transition via activation of epidermal growth factor receptor contributes to sunitinib resistance in human renal cell carcinoma cell lines., *J Pharmacol Exp Ther.*, 355(2),152-158, 2015. IF 3.760

\* Furugen A, Kobayashi M, Nishimura A, Takamura S, Narumi K, Yamada T, Iseki K., Quantification of new antiepileptic drugs by liquid chromatography/electrospray ionization tandem mass spectrometry and its application to cellular uptake experiment using human placental choriocarcinoma BeWo cells. *J Chromatogr B Analyt Technol Biomed Life Sci*, 1002, 228-233, 2015. IF 2.687

\* Yoshioka C, Yasuda S, Kimura F, Kobayashi M, Itagaki S, Hirano T, Iseki K, Expression and role of SNAT3 in the placenta., *Placenta*, 30(12), 1071-1077, 2009. IF 2.972

\* Yasuda S, Hasui S, Yamamoto C, Yoshioka C, Kobayashi M, Itagaki S, Hirano T, Iseki K, *Biosci. Biotechnol. Biochem.*, 72(9), 2277-2284, 2008. IF 1.176

\* Hirano T, Yasuda S, Osaka Y, Asari M, Kobayashi M, Itagaki S, Iseki K, The inhibitory effects of fluoroquinolones on carnitine transport in placental cell line BeWo., *Int. J. Pharm.*, 351(1-2), 113-118, 2008. IF 3.994

\* Hirano T, Yasuda S, Osaka Y, Kobayashi M, Itagaki S, Iseki K, Mechanism of the inhibitory effect of zwitterionic drugs (levofloxacin and grepafloxacin) on carnitine transporter (OCTN2) in Caco-2 cells. *Biochim. Biophys. Acta*, 1758(11), 1743-1750, 2006. IF 3.687