

Curriculum Vitae

Yoshiki Seto, Ph. D.

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1. Birth

May 13, 1983

2. Education

B. Sc.	Pharmaceutical Sciences (Pharmacokinetics and Toxicology)	University of Shizuoka	2007
M. Sc.	Pharmaceutical Sciences (Pharmacokinetics and Drug Safety)	University of Shizuoka	2009
Ph. D.	Pharmaceutical Sciences (Pharmacokinetics and Drug Safety)	University of Shizuoka	2012

3. Job/Research Experience

2012-2014	Kaken Pharmaceuticals Co. Ltd. (Research scientist, Pharmacokinetics and Safety)
2014-present	University of Shizuoka (Research assistant professor, Faculty of Pharmaceutical Sciences)

4. Recent research interests

My current research interests include (1) Development of novel analytical tools for predicting the risk of drug-induced phototoxicity; (2) Toxicokinetics and toxicodynamics analyses on phototoxicity and other toxicity; and (3) Design of new formulation system for efficacious and safe medication.

5. Publication (As of Aug. 13, 2014)

Original Articles (27)

- 1) Development of an improved inhalable powder formulation of pirfenidone by spray-drying: in vitro Characterization and pharmacokinetic profiling, Seto Y, Suzuki G, Sharon SSY, Chan HK, Onoue S, *Pharmaceutical Research*, 2016, *in press* (DOI: 10.1007/s11095-016-1887-3)
- 2) Comparative study on prediction performance of photosafety testing tools on photoallergens, Onoue S, Ohtake H, Suzuki G, Hirota M, Nishida H, Ashikaga T, Kouzuki H, Seto Y,

Toxicology in Vitro, 2016, *in press*

- 3) Photochemical mechanism of riboflavin-induced degradation of famotidine and a suggested pharmaceutical strategy for improving photostability, Uchida A, Onoue S, Ohtake H, Seto Y, Teramatsu T, Terajima T, Oguchi T, *Journal of Pharmaceutical Sciences*, **105(2)**: 741–746, 2016
- 4) Low hygroscopic spray-dried powders with trans-glycosylated food additives enhance the solubility and oral bioavailability of ipriflavone, Fujimori M, Kadota K, Kato K, Seto Y, Onoue S, Sato H, Ueda H, Tozuka Y, *Food Chemistry*, **190**: 1050–1055, 2016
- 5) New photosafety assessment strategy based on the photochemical and pharmacokinetic properties of both parent chemicals and metabolites, Kato M, Suzuki G, Ohtake H, Seto Y, Onoue S, *Drug Metabolism and Disposition*, **43(11)**: 1815–1822, 2015
- 6) Non-animal photosafety screening for complex cosmetic ingredients with photochemical and photobiochemical assessment tools, Nishida H, Hirota M, Seto Y, Suzuki G, Kato M, Sugiyama M, Kouzuki H, Onoue S, *Regulatory Toxicology and Pharmacology*, **72(3)**: 578–585, 2015
- 7) Phototoxic risk assessments on benzophenone derivatives: Photobiochemical assessments and dermal cassette-dosing pharmacokinetic study, Seto Y, Ohtake H, Kato M, Onoue S, *The Journal of Pharmacology and Experimental Therapeutics*, **354(2)**: 195–202, 2015
- 8) Self-nanoemulsifying particles of coenzyme Q10 with improved nutraceutical potential, Onoue S, Uchida A, Nakamura T, Kuriyama K, Hatanaka J, Tanaka T, Miyoshi H, Seto Y, Yamada S, *PharmaNutrition*, **3**: 153–159, 2015
- 9) Photosafety screening of phenothiazine derivatives with combined use of photochemical and cassette-dosing pharmacokinetic data, Onoue S, Kato M, Inoue R, Seto Y, Yamada S, *Toxicological Sciences*, **137 (2)**: 469–477, 2014
- 10) Development of micellar reactive oxygen species assay for photosafety evaluation of poorly water-soluble chemicals, Seto Y, Kato M, Yamada S, Onoue S, *Toxicology in Vitro*, **27 (6)**: 1838–1846, 2013
- 11) Inhalable powder formulation of pirfenidone with reduced phototoxic risk for treatment of pulmonary fibrosis, Onoue S, Seto Y, Kato M, Aoki Y, Kojo Y, Yamada S, *Pharmaceutical Research*, **30 (6)**: 1586–1596, 2013
- 12) Photosafety assessments on pirfenidone: photochemical, photobiological, and pharmacokinetic characterization, Seto Y, Inoue R, Kato M, Yamada S, Onoue S, *Journal of Photochemistry and Photobiology B: Biology*, **120**: 44–51, 2013
- 13) Establishment and intra-/inter-laboratory validation of a standard protocol of reactive oxygen species assay for chemical photosafety evaluation, Onoue S, Hosoi K, Wakuri S, Iwase Y, Yamamoto T, Matsuoka N, Nakamura K, Toda T, Osaki N, Matsumoto Y, Kawakami S, Seto Y, Kato M, Yamada S, Ohno Y, Kojima H, *Journal of Applied Toxicology*, **33 (11)**: 1241–1250,

2012

- 14) Novel solid self-emulsifying drug delivery system of coenzyme Q₁₀ with improved photochemical and pharmacokinetic behaviors, Onoue S, Uchida A, Kuriyama K, Nakamura T, Seto Y, Kato M, Hatanaka J, Tanaka T, Miyoshi H, Yamada S, *European Journal of Pharmaceutical Sciences*, **46 (5)**: 492-499, 2012
- 15) *In vitro* photochemical and phototoxicological characterization of major constituents in St. John's Wort (*Hypericum perforatum*) extracts, Onoue S, Seto Y, Ochi M, Inoue R, Ito H, Hatano T, Yamada S, *Phytochemistry*, **72 (14-15)**: 1814-1820, 2011
- 16) Combined use of *in vitro* phototoxic assessments and cassette dosing pharmacokinetic study for phototoxicity characterization of fluoroquinolones, Seto Y, Inoue R, Ochi M, Gandy G, Yamada S, Onoue S, *AAPS Journal*, **13 (3)**: 482-492, 2011
- 17) Pharmacokinetic study of nicotine and its metabolite cotinine to clarify possible association between smoking and voiding dysfunction in rats using UPLC/ESI-MS, Onoue S, Yamamoto N, Seto Y, Yamada S, *Drug Metabolism and Pharmacokinetics*, **26 (4)**: 416-422, 2011
- 18) Development of high-energy amorphous solid dispersion of nanosized nobiletin, a citrus polymethoxylated flavone, with improved oral bioavailability, Onoue S, Uchida A, Takahashi H, Seto Y, Ogawa K, Yuminoki K, Hashimoto N, Yamada S, *Journal of Pharmaceutical Sciences*, **100 (9)**: 3793-3801, 2011
- 19) *In vitro* photobiochemical characterization of sulfobutylether- β -cyclodextrin formulation of bufexamac, Seto Y, Ochi M, Igarashi N, Inoue R, Oishi A, Toida T, Yamada S, Onoue S, *Journal of Pharmaceutical and Biomedical Analysis*, **55 (3)**: 591-596, 2011
- 20) High-throughput screening strategy for photogenotoxic potential of pharmaceutical substances using fluorescent intercalating dye, Seto Y, Ochi M, Onoue S, Yamada S, *Journal of Pharmaceutical and Biomedical Analysis*, **52 (5)**: 781-786, 2010
- 21) High-throughput screening system for identifying phototoxic potential of drug candidates based on derivatives of reactive oxygen metabolites, Onoue S, Ochi M, Gandy G, Seto Y, Igarashi N, Yamauchi Y, Yamada S, *Pharmaceutical Research*, **27 (8)**: 1610-1619, 2010
- 22) A possible mechanism for the decrease in serum thyroxine level by a 2,3,7,8-tetrachlorodibenzo-p-dioxin-like polychlorinated biphenyl congener, 3,3',4,4',5-pentachlorobiphenyl in mice, Kato Y, Haraguchi K, Kubota M, Seto Y, Okura T, Ikushiro S, Koga N, Yamada S, Degawa M, *Drug Metabolism and Disposition*, **38 (1)**: 150-156, 2010
- 23) Formulation design and photochemical studies on nanocrystal solid dispersion of curcumin with improved oral bioavailability, Onoue S, Takahashi H, Kawabata Y, Seto Y, Hatanaka J, Timmermann B, Yamada S, *Journal of Pharmaceutical Sciences*, **99 (4)**: 1871-1881, 2010
- 24) 4-Hydroxy-2,2',3,4',5,5',6-heptachlorobiphenyl-mediated decrease in serum thyroxine level in

mice occurs through increase in accumulation of thyroxine in the liver, Kato Y, Haraguchi K, Kubota M, Seto Y, Ikushiro S, Sakaki T, Koga N, Yamada S, Degawa M, *Drug Metabolism and Disposition*, **37 (10)**: 2095-2102, 2009

- 25) Novel methodology for predicting photogenotoxic risk of pharmaceutical substances based on reactive oxygen species (ROS) and DNA-binding assay, Onoue S, Seto Y, Oishi A, Yamada S, *Journal of Pharmaceutical Sciences*, **98 (10)**: 3647-3658, 2009
- 26) *In vitro/in vivo* phototoxic risk assessments of griseofulvin based on photobiochemical and pharmacokinetic behaviors, Seto Y, Onoue S, Yamada S, *European Journal of Pharmaceutical Sciences*, **38 (2)**: 104-111, 2009
- 27) Reactive oxygen species assay-based risk assessment of drug-induced phototoxicity: classification criteria and application to drug candidates, Onoue S, Kawamura K, Igarashi N, Zhou Y, Fujikawa M, Yamada H, Tsuda Y, Seto Y, Yamada S, *Journal of Pharmaceutical and Biomedical Analysis*, **47 (4-5)**: 967-972, 2008

Review Articles (3)

- 1) Pharmacokinetic and pharmacodynamics perspectives on druggability of inhaled peptides/proteins, Onoue S, Suzuki H, Seto Y, *Current Pharmaceutical Design*, **21(27)**: 3867–3874, 2015
- 2) Exploratory and Regulatory Assessments on Photosafety of New Drug Entities, Seto Y, Hosoi K, Takagi H, Nakamura K, Kojima H, Yamada S, Onoue S, *Current Drug Safety*, **7 (2)**: 140-148, 2012
- 3) Drug-induced phototoxicity; an early *in vitro* identification of phototoxic potential of new drug entities in drug discovery and development, Onoue S, Seto Y, Gandy G, Yamada S, *Current drug Safety*, **4 (2)**: 123-136, 2009

Book (1)

- 1) “*High-Throughput Screening Methods in Toxicity Testing*”, (Editor: Pablo Steinberg), John Wiley&Sons (NJ), [Chapter 9. High-throughput assays to assess chemical phototoxicity, Onoue S, Seto Y, Yamada S], 177–90, 2013

6. Award

- President Award of University of Shizuoka (2012)
- Excellence Presentation Award of Pharmaceutical Society of Japan (PSJ) (2012)
- Postdoctoral Presentation Award of the Academy of Pharmaceutical Science and Technology, Japan (APSTJ) “Development and application of a photosafety assessment system for aiding novel pharmaceutical development” (2012)