



## Shinya Ito

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## Biography

As a Clinician-Scientist, Dr. Ito directs a widely-recognized research program of drug safety in breastfeeding mother and child. Currently, his clinical and research scope expands into pharmacogenomics-based drug safety. His contribution to education is extensive, including the Royal College of Physicians and Surgeons of Canada and European Union-funded network of excellence in paediatric drug trials (c4c).

He leads a project studying drug excretion into breast milk, systematically collecting breast milk samples from mothers on medications and applying computer modeling techniques to analyze them. He is also a SickKids site director of a national network of genetic projects to uncover individual factors for severe drug side effects.

## Education and experience

- **1979:** MD from Jichi Medical School, Japan
- **1979–1986:** Postgraduate training in Paediatrics and Medicine, followed by medical practice in resource-scarce areas of Hokkaido (northern Japan).
- **1986–1989:** Paediatric specialty training, Asahikawa Medical School.
- **1989–1995:** Clinical Pharmacology training, SickKids, Toronto, ON
- **1995:** Assistant Professor, University of Toronto, Toronto, ON
- **2000:** Head of Clinical Pharmacology/Toxicology, SickKids, Toronto, ON
- **2004:** Professor of Paediatrics, Medicine and Pharmacology/Toxicology, University of Toronto, Toronto, ON

## Achievements

- **2019:** Education Board member - connect4children (c4c); European commission-funded pan-European trial network
- **2000:** Board Member - Japanese Society for Developmental Pharmacology
- **2008:** Associate Editor - Clinical Pharmacology and Therapeutics
- **2008:** Senior Investigator Award (Canadian Society for Clinical Pharmacology)
- **2009:** Expert member - The WHO Expert Advisory Panel on Drug Evaluation
- **2010:** Chair - Specialty committee in Clinical Pharmacology & Toxicology (Royal College of Physicians and Surgeons of Canada)
- **2010:** President, Japanese Society for Developmental Pharmacology & Therapeutics
- **2013:** President, Canadian Society for Pharmacology & Therapeutics
- **2014:** Distinguished Service and Education award (Canadian Society of Pharmacology and Therapeutics)
- **2017:** Senior Scientist Award (Canadian Society of Pharmacology and Therapeutics)
- **2019:** The Japanese Foreign Minister’s Commendation recognizing the mentorship and the education of medical and other health science trainees from Japan, and the ongoing knowledge transfer to the Japanese community in Toronto regarding the basics of common medical conditions and the Canadian healthcare system.

## Publications

1. **Ito S.** Drug therapy for breast-feeding women. New Engl J Med 2000; 343:118-126. PMID: 10891521
2. Tan KP, Wang B, Yang M, Boutros PC, MacAulay J, Xu H, Chuang AI, Kosuge K, Yamamoto M, Takahashi S, Wu A, Ross DD, Harper PA, **Ito S.** Aryl hydrocarbon receptor (AHR) is a transcriptional activator of human breast cancer resistance protein (BCRP/ABCG2). Mol Pharmacol 2010;78:175-185 PMID: 20460431
3. Panchaud A, Garcia-Bournissen F, Csajka C, Kristensen JH, Taddio A, Ilet KF, Begg EJ, **Ito S.** Prediction of infant drug exposure through breastfeeding: population PK modeling and simulation of fluoxetine. Clin Pharmacol Ther 2011;89: 830–836. PMID: 21525869
4. Delaney S, Malik P, Stefan C, Edginton A, Colantonio D, **Ito S.** Predicting escitalopram exposure to breastfeeding infants: integrating analytical and in silico techniques for risk assessment. Clin Pharmacokinet 2018; 57 (12): 1603-1611
5. Takeuchi M, Kobayashi T, Biss T, Kamali F, Vear SI, Ho RH, Bajolle F, Lorient M-A, Shaw K, Carleton BC, Hamberg A-K, Wadelius M, Hirono K, Taguchi M, Wakamiya T, Yanagimachi M, Hirai K, Itoh K, Brandeo LR, **Ito S.** CYP2C9, VKORC1, and CYP4F2 polymorphisms and pediatric warfarin maintenance dose: a systematic review and meta-analysis. Pharmacogenomics J 2019 Nov 1:1-14


[See a full list of Shinya Ito's publications](#)

## Funding

- **2018–2022:** CIHR Project Scheme: Drugs in breast milk (\$680,000)
- **2017–2021:** Crohn’s and Colitis Foundation of America. Assessing the drug exposure risk of infants breastfed by women with inflammatory bowel disease (\$350,000 USD)
- **2017:** Genome Canada. Large-Scale Applied Research Project in Genomics and Precision Health entitled: “Go-PGx: Genomic and outcomes database for pharmacogenomics and implementation studies” (\$9,873,000) (PI: B Carleton). Co-investigator

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