


## A Great Leap for Intestinal Research: 20 YEARS AND BEYOND

### Curriculum Vitae

Personal Information	
Title (i.e. Pf., Dr., etc.)	Pf.
Name (First name Middle name Last name)	Toshiro Sato
Degree (i.e. MD, Msc, PhD, etc.)	MD, PhD
Country	Japan
Affiliation	Department of Organoid Medicine, Keio University School of Medicine
	
Educational Background	
4/1991-3/1997 MD Keio University School of Medicine	
4/1997-3/1999 Internship, Keio University Hospital	
4/1999-3/2003 Internal Medicine, Graduate school, School of Medicine, Keio University	
4/2004	PhD
Professional Experience	
4/1997-3/1999	Intern, Department of Medicine, Keio University Hospital
4/2003-9/2005	Resident, Department of Gastroenterology, Keio University Hospital
9/2004-8/2005	COE Postdoctoral researcher, Keio University School of Medicine
9/2005-4/2006	Resident, TEPCO hospital
4/2006-4/2007	Postdoctoral researcher, Stowers Institute, Kansas City (Supervisor: Linheng Li)
6/2007-3/2011	Postdoctoral researcher, Hubrecht Institute, Utrecht (Supervisor: Hans Clevers)
4/2011-3/2013	Assistant Professor, Department of Gastroenterology, Keio University School of Medicine
4/2013-10/2018	Associate professor, Department of Gastroenterology, Keio University School of Medicine
11/2018-Present	Professor, Department of Organoid Medicine, Keio University School of Medicine
Professional Organizations	
International Society of Stem Cell Research, American Association for Cancer Research, The Japanese Society of Gastroenterology, The Japanese Society of Internal Medicine, Japanese Cancer Association, The Japanese Society for Regenerative Medicine	

# IMKASID 2022

COMMEMORATING  
THE 20<sup>th</sup> ANNIVERSARY OF KASID

THE 5<sup>th</sup> INTERNATIONAL MEETING ON INTESTINAL DISEASES IN CONJUNCTION WITH  
THE ANNUAL CONGRESS OF THE KOREAN ASSOCIATION FOR THE STUDY OF INTESTINAL DISEASES

MAY 12 THU - 14 SAT, 2022 / BEXCO, Busan **IN PERSON & VIRTUAL EVENT** ▶▶

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### Main Scientific Publications

- 1) Sugimoto S, Kobayashi E, Fujii M, Ohta Y, Arai K, Matano M, Ishikawa K, Miyamoto K, Toshimitsu K, Takahashi S, Nanki K, Hakamata Y, Kanai T, **Sato T\***. An organoid-based organ-repurposing approach to treat short bowel syndrome. **Nature**. 2021;592:99-104.
- 2) Togasaki K, Sugimoto S, Ohta Y, Nanki K, Matano M, Takahashi S, Fujii M, Kanai T, **Sato T\***. Signaling Shapes the Histologic Variation in Diffuse Gastric Cancer. **Gastroenterology**. 2021 Feb;160(3):823-830.
- 3) Kawasaki K, Toshimitsu K, Matano M, Fujita M, Fujii M, Togasaki K, Ebisudani T, Shimokawa M, Takano A, Takahashi S, Ohta Y, Nanki K, Igarashi R, Ishimaru K, Ishida H, Sukawa Y, Sugimoto S, Saito Y, Maejima K, Sasagawa S, Lee H, Kim HG, Ha K, Hamamoto J, Fukunaga K, Maekawa A, Tanabe M, Ishihara S, Hamamoto Y, Yasuda H, Sekine S, Kudo A, Kitagawa Y, Kanai T, Nakagawa H, **Sato T\***. An Organoid Biobank of Neuroendocrine Neoplasms Enables Genotype-Phenotype Mapping. **Cell**. 2020;S0092-8674(20)31387-8.
- 4) Sasaki N, Miyamoto K, Maslowski KM, Ohno H, Kanai T, **Sato T\***. Development of a Scalable Coculture System for Gut Anaerobes and Human Colon Epithelium. **Gastroenterology**. 2020;159:388-390
- 5) Kawasaki K, Fujii M, Sugimoto S, Ishikawa K, Matano M, Ohta Y, Toshimitsu K, Takahashi S, Hosoe N, Sekine S, Kanai T, **Sato T\***. Chromosome Engineering of Human Colon-Derived Organoids to Develop a Model of Traditional Serrated Adenoma. **Gastroenterology**. 2020;158:638-651
- 6) Nanki K, Fujii M, Shimokawa M, Matano M, Nishikori S, Date S, Takano A, Toshimitsu K, Ohta Y, Takahashi S, Sugimoto S, Ishimaru K, Kawasaki K, Nagai Y, Ishii R, Yoshida K, Sasaki N, Hibi T, Ishihara S, Kanai T, **Sato T\***. Somatic inflammatory gene mutations in human ulcerative colitis epithelium. **Nature**. 2020;577:254-259.
- 8) Nakamoto N, Sasaki N, Aoki R, Miyamoto K, Suda W, Teratani T, Suzuki T, Koda Y, Chu PS, Taniki N, Yamaguchi A, Kanamori M, Kamada N, Hattori M, Ashida H, Sakamoto M, Atarashi K, Narushima S, Yoshimura A, Honda K, **Sato T\***, Kanai T\*. Gut pathobionts underlie intestinal barrier dysfunction and liver T helper 17 cell immune response in primary sclerosing cholangitis. **Nature Microbiol**. 2019;3:492-503.
- 9) Fujii M, Matano M, Toshimitsu K, Takano A, Mikami Y, Nishikori S, Sugimoto S, **Sato T\***. Human Intestinal Organoids Maintain Self-Renewal Capacity and Cellular Diversity in Niche-Inspired Culture Condition. **Cell Stem Cell**. 2018 ;23:787-793.
- 10) Nanki K, Toshimitsu K, Takano A, Fujii M, Shimokawa M, Ohta Y, Matano M, Seino T, Nishikori S, Ishikawa K, Kawasaki K, Togasaki K, Takahashi S, Sukawa Y, Ishida H, Sugimoto S, Kawakubo H, Kim J, Kitagawa Y, Sekine S, Koo BK, Kanai T, **Sato T\***. Divergent Routes toward Wnt and R-spondin Niche Independency during Human Gastric Carcinogenesis. **Cell**. 2018;174:856-869.
- 11) Seino T, Kawasaki S, Shimokawa M, Tamagawa H, Toshimitsu K, Fujii M, Ohta Y, Matano M, Nanki K, Kawasaki K, Takahashi S, Sugimoto S, Iwasaki E, Takagi J, Itoi T, Kitago M, Kitagawa Y, Kanai T, **Sato T\***. Human Pancreatic Tumor Organoids Reveal Loss of Stem Cell Niche Factor Dependence during Disease Progression. **Cell Stem Cell**. 2018 ;22:454-467.
- 12) Sugimoto S, Ohta Y, Fujii M, Matano M, Shimokawa M, Nanki K, Date S, Nishikori S, Nakazato Y, Nakamura N, Kanai T, **Sato T\***. Reconstruction of the human colon epithelium in vivo. **Cell Stem Cell** 2018;22:454-467
- 13) Shimokawa M, Ohta Y, Nishikori S, Matano M, Takano A, Fujii M, Date S, Sugimoto S, Kanai T, **Sato T\***. Visualization and targeting of LGR5+ human colon cancer stem cells. **Nature** 2017;545:187-192.

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- 14) Blokzijl F, de Ligt J, Jager M, Sasselli V, Roerink S, Sasaki N, Huch M, Boymans S, Kuijk E, Prins P, Nijman I, Martincorena I, Mokry M, Wiegerinck CL, Middendorp S, **Sato T**, Schwank G, Nieuwenhuis EES, Verstegen MMA, van der Laan LJW, de Jonge J, IJzermans JNM, Vries RG, van de Wetering M, Stratton MR, Clevers H, Cuppen E\*, van Boxtel R\*. Tissue-specific mutation accumulation in human adult stem cells during life. **Nature** 2016.;238:260-264
- 15) Fujii M, Shimokawa M, Date S, Takano A, Matano M, Ohta Y, Nanki K, Kawasaki K, Nakazato Y, Uraoka T, Watanabe T, Kanai T, **Sato T**\*. A colorectal tumor organoid library demonstrates progressive loss of niche factor requirements. **Cell Stem Cell** 2016;18:827-38.
- 16) Matano M, Date S, Shimokawa M, Takano A, Fujii M, Ohta Y, Watanabe T, Kanai T, **Sato T**\*. Modeling colorectal cancer using CRISPR-Cas9-mediated engineering of human intestinal organoids. **Nature Medicine**. 2015;21:256-62.
- 17) **Sato T**, van Es JH, Snippert HJ, Stange DE, Vries RG, van den Born M, Barker N, Shroyer NF, van de Wetering M, Clevers H\*. Paneth cells constitute the niche for Lgr5 stem cells in intestinal crypts. **Nature**. 2011; 469: 415-8.
- 18) **Sato T**, Vries RG, Snippert HJ, van de Wetering M, Barker N, Stange DE, van Es JH, Abo A, Kujala P, Peters PJ, Clevers H\*. Single Lgr5 stem cells build crypt-villus structures in vitro without a mesenchymal niche. **Nature**. 2009; 459: 262-5.