

## BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.  
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME <b>Inoue, Takanari</b>		POSITION TITLE Assistant Professor	
eRA COMMONS USER NAME INOUE.TAKANARI			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Tokyo (Tokyo, Japan)	B.S.	1998	Arts and Sciences
University of Tokyo (Tokyo, Japan)	Ph.D.	2003	Pharmaceutical Science
Stanford University (Palo Alto CA)	Postdoctoral Training	2003-2008	Chemical & Systems Biology

### A. POSITIONS AND HONORS

#### Positions and Employment

1994 – 1998 Undergraduate Student, Arts and Sciences, University of Tokyo (Tokyo, Japan)  
1998 – 2003 Graduate Student, Pharmaceutical Science, University of Tokyo (Tokyo, Japan)  
2003 – 2008 Postdoctoral fellow, Chemical & Systems Biology, Bio-X Program, Stanford University  
2008 – Assistant Professor, Cell Biology, School of Medicine and Cell Dynamics, Institute for Basic Biomedical Sciences, Johns Hopkins University

#### Memberships

1998 Japanese Pharmacist License  
1998 – Present Member, Japanese Society for Pharmaceutical Sciences  
2005 – Present Member, American Society for Cell Biology

#### Awards

1999 – 2000 Japan Student Services Organization First Class Scholarship  
2000 – 2003 Young Scientist Scholarship from Japanese Society for Promotion of Science  
2003 – 2004 Postdoctoral Fellowship from Japanese Society for Promotion of Science  
2004 – 2006 Ruth L. Kirschstein National Research Service Award, Quantitative Chemical Biology Program

#### Patents

1. "IP<sub>3</sub> Receptor Ligands"  
Nagano T., Kikuchi K., **Inoue T.**, Iino M., and Hirose K. **U.S. Patent 6,656,927**, 2 Dec. 2003

#### Invited Seminars

Jul. 1998 China-Japan Annual Exchange Program in Pharmaceutical Sciences, Shenyang, China  
"Design and Synthesis of malachite green-conjugated IP<sub>3</sub> derivatives"  
Jun. 2002 FASEB Summer Research Conference on Signal Transduction, Salt Lake City, UT  
"Spatio-temporal laser-inactivation of IP<sub>3</sub> receptors using synthetic small-molecule probes"  
Jan. 2006 Research Institute for Microbial Diseases Seminar Series, Osaka University, Osaka, Japan  
"Inducible translocation strategy to rapidly activate and inhibit chemotaxis signaling pathways"  
Mar. 2006 50th Anniversary Deuel Conference on Lipids, Monterey, CA  
"Inducible manipulation of phospholipids in intact cells"  
Mar. 2007 University of California Berkeley, Bioengineering, Berkeley, CA  
University of Illinois, Chicago, Department of Biochemistry and Molecular Genetics, Chicago, IL  
Oregon Health & Science University, Department of Physiology and Pharmacology, Portland, OR  
University of Chicago, Department of Molecular Genetics and Cell Biology, Chicago, IL  
Ecole Polytechnique Fédérale de Lausanne, Institute of Bioengineering, Lausanne, Switzerland  
"Engineering Cellular Behavior: The Polarity Machinery of Chemotactic Cells"

- Jul. 2007 Gordon Research Conference, Molecular & Cellular Biology of Lipids, Waterville Valley, NH  
"Chemically-Inducible Manipulation of PtdIns(4,5)P<sub>2</sub> and PtdIns(3,4,5)P<sub>3</sub> In Situ as Probes of Phosphoinositide Regulatory Functions"
- Nov. 2007 Global COE seminar series, School of Medicine, Kobe University & University of Tokyo, Japan  
Center for Developmental Biology, RIKEN Institute, Kobe, Japan  
"Engineering Cellular Behavior: The Polarity Machinery of Chemotactic Cells"
- Feb. 2009 Department of Neural and Pain Science, University of Maryland Baltimore, Baltimore, MD

## B. PEER-REVIEWED PUBLICATIONS

1. **Inoue T.**, Kikuchi K., Hirose K., Iino M., and Nagano T. (1999) *Bioorg. Med. Chem. Lett.* 9, 1697-1702. "Synthesis and evaluation of 1-position-modified inositol 1,4,5-trisphosphate analogs"
2. **Inoue T.**, Kikuchi K., Hirose K., Iino M., and Nagano T. (2001) *Chem. Biol.* 8, 9-15. "Small molecule-based laser inactivation of inositol 1,4,5-trisphosphate receptor"
3. **Inoue T.**, Kazuya K., and Nagano T. (2002) *Pharmacia*\* 38, 131-134. "Spatiotemporal regulation of protein inactivation" (\*Japanese Review of Pharmaceutical Sciences)
4. Nakanishi W., Kikuchi K., **Inoue T.**, Hirose K., Iino M., and Nagano T. (2002) *Bioorg. Med. Chem. Lett.* 12, 911-913. "Hydrophobic modifications at 1-phosphate of inositol 1,4,5-trisphosphate analogues enhance receptor binding"
5. **Inoue T.**, Kikuchi K., Hirose K., Iino M., and Nagano T. (2003) *Chem. Biol.*\* 10, 503-509. "Spatiotemporal Laser Inactivation of Inositol 1,4,5-Trisphosphate Receptors Using Synthetic Small-molecule Probes" (\*Cover Article)
6. Yogo T., Kikuchi K., **Inoue T.**, Hirose K., Iino M. and Nagano T. (2004) *Chem. Biol.* 11, 1053-1058. "Modification of intracellular Ca<sup>2+</sup> dynamics by laser inactivation of inositol 1,4,5-trisphosphate receptor using membrane-permeant probes."
7. **Inoue T.**, Heo W.D., Grimley J.S., Wandless T.J., and Meyer T. (2005) *Nature Methods* 2, 415-418. "Inducible translocation strategies to rapidly activate and inhibit small GTPase signaling pathways"
8. Heo W.D., **Inoue T.**, Park W.S., Kim M.L., Park B.O., Wandless T.J. and Meyer T. *Science* 314, 1458-1461 (2006) "PI(3,4,5)P<sub>3</sub> and PI(4,5)P<sub>2</sub> lipids target Ras, Rho, Arf and Rab GTPases to the plasma membrane"
9. Suh B.C. \*, **Inoue T.** \*, Meyer T. and Hille B. *Science* 314, 1454-1457 (2006) "Rapid chemically-induced changes of PtdIns(4,5)P<sub>2</sub> gate KCNQ ion channels" (\*Contributed Equally)  
Note: "Perspectives" (*Science* 314, 1402-1403 (2006)), "Editor's Choice" (*Science STKE* 364, tw410 (2006)), "Spotlight" (*ACS Chem. Biol.* 1, 608 (2006)), "Research Highlights" (*Nature Methods* 4, 7 (2007)) and "Review" (invited by *Nature Chem. Biol.*).
10. Liou J., Fivaz M., **Inoue T.** and Meyer T. *Proc. Natl. Acad. Sci* 104, 9301-9306 (2007) "Live-cell imaging reveals sequential oligomerization and local PM targeting of STIM1 following Ca<sup>2+</sup> store depletion"  
Note: "Research Roundup" (*J. Cell Biol.* 177 (6), (2007)).
11. Aoki. K, Nakamura T., **Inoue T.**, Meyer T., and Matsuda M. *J. Cell Biol.* 177, 817-827 (2007) "An essential role for the SHIP2-dependent negative feedback loop in neuriteogenesis of nerve growth factor-stimulated PC12 cells"
12. Yogo T., Urano Y., Mizushima A., Sunahara H., **Inoue T.**, Hirose K., Iino M., Kikuchi K. and Nagano T., *Proc. Natl. Acad. Sci.*, 105, 28-32 (2008) "Selective photoinactivation of protein function through environment-sensitive switching of singlet oxygen generation by photosensitizer"
13. Fivaz M., Bandara S., **Inoue T.** and Meyer T., *Current Biology* 18, 44-50 (2008), "Robust neuronal symmetry breaking by Ras-triggered local positive feedback"
14. Abe N., Klein L., **Inoue T.**, Galvez T. and Meyer T. *J. Cell Sci.* 121, 1488 (2008) "Dissecting the role of PI(4,5)P<sub>2</sub> in transferrin receptor endocytosis and recycling"
15. **Inoue T.**\* and Meyer T.\* *PLoS ONE* 3(8), e3068 (2008) "Synthetic activation of endogenous PI3K and Rac identifies an AND-gate switch for cell polarization and migration" (\* Corresponding author)
16. Rahdar M., **Inoue T.**, Meyer T., Zhang J., Vazquez F., Devreotes P.N. *Proc. Natl. Acad. Sci. U S A.* (2009) "A phosphorylation-dependent intramolecular interaction regulates the membrane association and activity of the tumor suppressor PTEN" 106(2):480-5.