

チーム名：ライブセル分子イメージング研究チーム

(1) 原著論文 / Original Papers

1. T. Uemura, Y. Suda, T. Ueda, and A. Nakano: "Dynamic behavior of the trans-Golgi network in root tissues of *Arabidopsis* revealed by super-resolution live imaging," *Plant Cell Physiol.* 55, 694-670 (2014).
2. Y. Hashiguchi, D. Yano, K. Nagafusa, T. Kato, C. Saito, T. Uemura, T. Ueda, A. Nakano, M. Tasaka, and M. T. Morita: "A unique HEAT repeat-containing protein SHOOT GRAVITROPISM 6 is involved in vacuolar membrane dynamics in gravity sensing cells of *Arabidopsis* inflorescence stem," *Plant Cell Physiol.* 55, 811-822 (2014).
3. M. Fujiwara, Uemura, K. Ebine, Y. Nishimori, T. Ueda, A. Nakano, M. H. Sato, and Y. Fukao: "Interactomics of Qa-SNARE in *Arabidopsis thaliana*," *Plant Cell Physiol.* 55, 781-789 (2014).
4. H. Kawai-Toyooka, T. Mori, T. Hamaji, M. Suzuki, B. J. S. C. Olson, T. Uemura, T. Ueda, A. Nakano, A. Toyoda, A. Fujiyama, and H. Nozaki: "Sex-specific post-translational regulation of the gamete fusogen GCS1 in the isogamous volvocine alga *Gonium pectorale*," *Eukaryotic Cell* 5, 648-656 (2014).
5. K. Kurokawa, M. Okamoto, and A. Nakano: "Contact of cis-Golgi with ER exit sites executes cargo capture and delivery from the ER," *Nat. Commun.* 5, 3653 (2014).
6. T. Haraguchi, M. Tominaga, R. Matsumoto, K. Sato, A. Nakano, K. Yamamoto, and K. Ito: "Molecular characterization and subcellular localization of *Arabidopsis* class VIII myosin ATM1," *J. Biol. Chem.* 289, 12343-12355 (2014).
7. S. Miyagishima, T. Fujiwara, N. Sumiya, S. Hirooka, A. Nakano, Y. Kabeya, and M. Nakamura: "Translation-independent circadian control of the cell cycle in a unicellular photosynthetic eukaryote," *Nat. Commun.* 5, 3807 (2014).
8. Y. Cui, Q. Zhao, C. Gao, Y. Ding, Y. Zeng, T. Ueda, A. Nakano, and L. Jiang: "Activation of the Rab7 GTPase by the MON1-CCZ1 complex is essential for PVC-to-vacuole trafficking and plant growth in *Arabidopsis*," *Plant Cell* 26, 2080-2097 (2014).
9. K. Ebine, T. Inoue, J. Ito, E. Ito, T. Uemura, T. Goh, H. Abe, K. Sato, A. Nakano, and T. Ueda: "Plant vacuolar trafficking occurs through distinctly regulated pathways," *Curr. Biol.* 24, 1375-1382 (2014).
10. S. Naramoto, M. S. Otegui, N. Kutsuna, R. de Rycke, T. Dainobu, M. Karampelias, M. Fujimoto, E. Feraru, D. Miki, H. Fukuda, A. Nakano, and J. Friml: Insights into the localization and function of the membrane trafficking regulator GNOM ARF-GEF at the Golgi apparatus in *Arabidopsis*," *Plant Cell* 26, 3062-3076 (2014).
11. M. Iwai, M. Yokono, M. Kono, K. Noguchi, S. Akimoto, and A. Nakano: "Light-harvesting complex Lhcb9 confers a green alga-type photosystem I supercomplex to the moss *Physcomitrella patens*," *Nat. Plants* 1, 14008 (2015).

12. M. Fujimoto, Y. Suda, S. Vernhettes, A. Nakano, and T. Ueda: "Phosphoinositol 3-kinase and 4-kinase have distinct roles in intracellular trafficking of the cellulose synthase complex in *Arabidopsis thaliana*," *Plant Cell Physiol.* 56:287-298 (2015).
13. T. Tsutsui, A. Nakano, and T. Ueda: "The plant-specific RAB5 GTPase ARA6 is required for starch and sugar homeostasis in *Arabidopsis thaliana*," *Plant Cell Physiol.* 56, 1073-1083 (2015).
14. M. Iwai, M. Yokono, and A. Nakano: "Toward understanding the multiple spatiotemporal dynamics of chlorophyll fluorescence," *Plant Signal. Behav.* in press.
15. K. Nakanishi, K. Kakiguchi, S. Yonemura, A. Nakano, and N. Morishima: "Transient Ca²⁺ depletion from the endoplasmic reticulum is critical for skeletal myoblast differentiation," *FASEB J.* 29, 2137-2149 (2015).
16. A. Baral, N. G. Irani, M. Fujimoto, A. Nakano, S. Mayor and M. K. Mathew: "Salt induced remodelling of spatially restricted clathrin-independent endocytic pathways in *Arabidopsis* root," *Plant Cell* 27, 1297-1315 (2015).
17. H. Shinohara, M. Behar, K. Inoue, M. Hiroshima, T. Yasusda, T. Nagashima, S. Kimura, H. Sanjo, S. Maeda, N. Yumoto, S. Ki, S. Akira, Y. Sako, A. Hoffman, T. Kurosaki, and M. Okada-Hatakeyama: "Positive feedback within a kinase signaling complex functions as a switch mechanism for NF- κ B activation," *Science*, 344, 760-764 (2014).
18. S.-i. Morita, S. Takanezawa, M. Hiroshima, T. Mitsui, Y. Ozaki, and Y. Sako: "Raman and autofluorescence spectrum dynamics along the HRG-induced differentiation pathway of MCF-7 cells," *Biophys. J.* 107, 2221-2229 (2014).
19. H. Park, S.-S. Han, Y. Sako, and C.-G. Pack: "Dynamic and unique nucleolar microenvironment revealed by fluorescence correlation spectroscopy," *FASEB J.* 29, 837-848 (2015).
20. Y. Arata, H. Takagi, Y. Sako, and H. Sawa: "Power law relationship between cell cycle duration and cell volume in the early embryonic development of *Caenorhabditis elegans*," *Frontiers in Physiol.* DOI: 10.3389/fphys.2014.00529 (1-11) (2015).
21. S. Takanezawa, S.-i. Morita, Y. Ozaki, and Y. Sako: "Raman spectral dynamics of single cells in the early stages of growth factor stimulation," *Biophys. J.* 108, 2148-2157 (2015).

(2) 著書・解説など / Book Editions, Review Papers

1. Y. Ito, T. Uemura, and A. Nakano: "Formation and maintenance of the plant Golgi apparatus," *Intl. Rev. Cell Mol. Biol.* 310, 221-287 (2014).
2. A. Nakano: "Cell biology: Polarized transport in the Golgi apparatus," *Nature* 28, 427-428 (2015).

3. D. G. Robinson, F. Brandizzi, C. Hawes, and A. Nakano: "Vesicles versus tubes: is ER-Golgi transport in plants fundamentally different from other eukaryotes?" *Plant Physiol.* 168, 393-406 (2015).
4. C.-G. Pack, M.-K. Jung, M.-R. Song, J.-S. Kim, S.-S. Han, and Y. Sako: "Use of engineered nanoparticle-based fluorescence methods for live-cell phenomena," in "Fluorescence Microscopy: Super-Resolution and Other Novel Techniques." pp.153-170. Cornea, A. and Conn, P. M. eds. Elsevier (2014).

(3) 招待講演 / Invited Talks

1. A. Nakano: "Development of super-resolution live imaging microscopy (SCLIM) to tackle molecular mechanisms of membrane trafficking," International ERATO Higashiyama Live-Holomics Symposium, Nagoya, Japan, September 10 (2014).
2. R. Maeda, M. Hiroshima, T. Yamashita, A. Wada, S. Nishimura, Y. Sako, and Y. Shichida: "Single-molecule observation of the ligand-induced population shift of rhodopsin, a G-protein coupled receptor," Single Protein Dynamics in Cellulo SPDC 2014, Onna, Okinawa, Japan, April 24 (2014).
3. Y. Sako: "Single-molecule analysis of cell signaling reactions," Single Protein Dynamics in Cellulo SPDC 2014, Onna, Okinawa, Japan, April 25 (2014).
4. Y. Sako: "Experimental aspects of intracellular dynamics of cell fate decision," The Joint Annual Meeting of The Japanese Society for Mathematical Biology and The Society for Mathematical Biology 2014, Osaka, Japan, July 30 (2014).
5. M. Hiroshima, and Y. Sako: "Regulation of Cellular Signaling by ErbB System," The Joint Annual Meeting of the Japanese Society for Mathematical Biology and the Society for Mathematical Biology 2014, Osaka, Japan, July 30 (2014).

(4) 特許出願 / Patent Applications

1. 中野明彦, 市原昭, "対物レンズの駆動制御方法及び蛍光顕微鏡システム," 国際出願番号 PCT/JP2014/00434, 書類番号 24779, 2014年8月25日.