

## Publications

1. Takase M, Iida R, Maruya M, Sakaue-Sawano A, Miyawaki A, Wakayama T, Nishigami S, Fagarasan S, Kanagawa O. Nuclear transferred embryonic stem cell for analysis of B1 B-lymphocyte development. **Int Immunol.** Int Immunol. 2013 Mar;25(3):145-56. doi: 10.1093/intimm/dxs095.
2. Wakayama S, Kohda T, Obokata H, Tokoro M, Li C, Terashita Y, Mizutani E, Nguyen VT, Kishigami S, Ishino F, Wakayama T. Successful Serial Recloning in the Mouse over Multiple Generations. **Cell Stem Cell** 2013 Mar 7;12(3):293-7. doi: 10.1016/j.stem.2013.01.005. (Cover article of issue)
3. Lee AR, Kishigami S, Amano T, Matsumoto K, Wakayama T, Hosoi Y. Nicotinamide: a Class III HDACi Delays In Vitro Aging of Mouse Oocytes. **J Reprod Dev.** 2013 Mar 10. [Epub ahead of print]
4. Kohda T, Kishigami S, Kaneko-Ishino T, Wakayama T, Ishino F. Gene Expression Profile Normalization in Cloned Mice by Trichostatin A Treatment. **Cell Reprogram.** 2012 14:45-55 DOI: 10.1089/cell.2011.0062
5. Mizutani E, Yamagata K, Ono T, Akagi S, Geshi M, Wakayama T. Abnormal chromosome segregation at early cleavage is a major cause of the full-term developmental failure of mouse clones. **Dev Biol.** 2012 364:56-65 doi:10.1016/j.ydbio.2012.01.001
6. Yamagata K, Iwamoto D, Terashita Y, Li C, Wakayama S, Hayashi-Takanaka Y, Kimura H, Saeki K, Wakayama T. Fluorescence cell imaging and manipulation using conventional halogen lamp microscopy. **PLoS One.** 2012;7(2):e31638 doi:10.1371/journal.pone.0031638
7. Terashita Y, Wakayama S, Yamagata K, Li C, Sato E, Wakayama T. Latrunculin A Can Improve the Birth Rate of Cloned Mice and Simplify the Nuclear Transfer Protocol by Gently Inhibiting Actin Polymerization. **Biol Reprod.** 2012 86:180 1-6 doi: 10.1095/biolreprod.111.098764
8. Nagashimada M, Ohta H, Li C, Nakao K, Uesaka T, Brunet JF, Amiel J, Trochet D, Wakayama T, Enomoto H. Autonomic neurocristopathy-associated mutations in PHOX2B dysregulate Sox10 expression. **J Clin Invest.** 2012 Sep 4;122(9):3145-58. doi: 10.1172/JCI63401.
9. Takiguchi M, Kazuki Y, Hiramatsu K, Abe S, Iida Y, Takehara S, Nishida T, Ohbayashi T, Wakayama T, and Oshimura M. A Novel and Stable Mouse Artificial Chromosome Vector. **ACS Synthetic Biology** 2012, October 9 ASAP. doi: 10.1021/sb3000723
10. Itoi F, Tokoro M, Terashita Y, Yamagata K, Fukunaga N, Asada Y, Wakayama T. Offspring from mouse embryos developed using a simple incubator-free culture system with a deoxidizing agent. **PLoS One.** 2012;7(10):e47512. doi: 10.1371/journal.pone.0047512. Epub 2012 Oct 9.

11. Bui HT, Wakayama S, Mizutani E, Park KK, Kim JH, Van Thuan N, Wakayama T. Essential role of paternal chromatin in the regulation of transcriptional activity during mouse preimplantation development. **Reproduction**. 2011 141:67-77.
12. Murakami K, Araki K, Ohtsuka S, Wakayama T, Niwa H. Choice of random rather than imprinted X inactivation in female embryonic stem cell-derived extra-embryonic cells. **Development**. 2011 138:197-202.
13. Maruya M, Suzuki K, Fujimoto H, Miyajima M, Kanagawa O, Wakayama T, Fagarasan S. Vitamin A-dependent transcriptional activation of the nuclear factor of activated T cells c1 (NFATc1) is critical for the development and survival of B1 cells. **Proc Natl Acad Sci U S A**. 2011 108:722-727.
14. Hirata S, Fukasawa H, Wakayama S, Wakayama T, Hoshi K. (2011) Generation of Healthy Cloned Mice using Enucleated Cryopreserved Oocytes. **Cellular Reprogramming** 2011, 13:7-11.
15. Ono T, Mizutani E, Li C, Yamagata K, Wakayama T. Offspring from intracytoplasmic sperm injection of aged mouse oocytes treated with caffeine or MG132. **Genesis**. 2011 49: 460-471 DOI: 10.1002/dvg.20756
16. Amarnath D, Choi I, Moawad AR, Wakayama T, Campbell KH. Nuclear-cytoplasmic incompatibility and inefficient development of pig-mouse cytoplasmic hybrid embryos. **Reproduction**. 2011 142: 295-307 DOI: 10.1530/REP-11-0044
17. Hayashi-Takanaka Y, Yamagata K, Wakayama T, Stasevich TJ, Kainuma T, Tsurimoto T, Tachibana M, Shinkai Y, Kurumizaka H, Nozaki N, Kimura H. Tracking epigenetic histone modifications in single cells using Fab-based live endogenous modification labeling. **Nucleic Acids Res**. 2011 39: 6475-6488. doi: 10.1093/nar/gkr343
18. Cui, XS., Shen, XH., Lee CK., Kang, YK., Wakayama, T. Kim NH. Analysis of proteomic profiling of mouse embryonic stem cells derived from fertilized, parthenogenetic and androgenetic blastocysts. **Stem Cell Discovery** 1: 1-15 (2011).
19. Terashita Y, Li C, Yamagata K, Sato E, Wakayama T. Effect of Fluorescent Mercury Light Irradiation on In Vitro and In Vivo Development of Mouse Oocytes after Parthenogenetic Activation or Sperm Microinjection. **J Reprod Dev**. 2011 57: 564-571 doi:10.1262/jrd.11-015H (Cover article of issue)
20. Kohda T, Ogonuki N, Inoue K, Furuse T, Kaneda H, Suzuki T, Kaneko-Ishino T, Wakayama T, Wakana S, Ogura A, Ishino F. Intracytoplasmic sperm injection induces transcriptome perturbation

without any transgenerational effect. **Biochem Biophys Res Commun.** 2011 410: 282-288  
doi:10.1016/j.bbrc.2011.05.133

21. Amarnath D, Wakayama S, Zhu J, Moawad AR, Wakayama T, Campbell KH The novel use of modified pig zygotic medium for the efficient culture of the preimplantation mouse embryos. **Theriogenology.** 2011 76: 1639-1646 <http://dx.doi.org/10.1016/j.theriogenology.2011.06.028>,
22. Li C, Mizutani E, Ono T, Terashita Y, Jia XF, Shi HJ, Wakayama T. Intracytoplasmic Sperm Injection with Mouse Spermatozoa Preserved Without Freezing for Six Months Can Lead to Full-Term Development. **Biol Reprod.** 2011 85:1183-1190 DOI 10.1095/biolreprod.111.091827
23. Bui HT, Seo HJ, Park MR, Park JY, Van Thuan N, Wakayama T, Kim JH. Histone Deacetylase Inhibition Improves Activation of Ribosomal RNA Genes and Embryonic Nucleolar Reprogramming in Cloned Mouse Embryos. **Biol Reprod.** 2011 85: 1048-1056 DOI 10.1095/biolreprod.110.089474
24. Li, C. Mizutani, E. Ono, T. Wakayama, T. (2010) An Efficient Method for Generating Transgenic Mice Using NaOH-Treated Spermatozoa. **Biol Reprod.** 82: 331-340
25. Ono T, Mizutani E, Chong L, Wakayama T. (2010) Preservation of sperm within the mouse cauda epididymidis in salt or sugars at room temperature. **Zygote** 18:245-256
26. Okada, Y. Yamagata, K. Hong, K. Wakayama, T. Zhang, Y. (2010) A role for the elongator complex in zygotic paternal genome demethylation. **Nature** 463: 554-558
27. Dahl JA, Reiner AH, Klungland A, Wakayama T, Collas P. (2010) Histone H3 lysine 27 methylation asymmetry on developmentally-regulated promoters distinguish the first two lineages in mouse preimplantation embryos. **PLoS One.** 5:e9150.
28. Sato S, Yagi S, Arai Y, Hirabayashi K, Hattori N, Iwatani M, Okita K, Ohgane J, Tanaka S, Wakayama T, Yamanaka S, Shiota K. (2010) Genome-wide DNA methylation profile of tissue-dependent and differentially methylated regions (T-DMRs) residing in mouse pluripotent stem cells. **Genes Cells.** 15: 607-618.
29. Bui H.T., Wakayama S., Kishigami S., Kim HJ., Van Thuan N., and Wakayama T. (2010) Effect of Trichostatin A on chromatin remodeling, histone modifications, DNA replication and transcriptional activity in cloned mouse embryos. **Biol Reprod.** 83: 454-463.
30. Sakaue M, Ohta H, Kumaki Y, Oda M, Sakaide Y, Matsuoka C, Yamagiwa A, Niwa H, Wakayama T, Okano M. (2010) DNA Methylation Is Dispensable for the Growth and Survival of the Extraembryonic Lineages. **Curr Biol.** 20: 1452-1457.
31. Hikichi T., Ohta H., Wakayama S., and Wakayama T. (2010) Functional full-term placentas formed from parthenogenetic embryos using serial nuclear transfer. **Development** 137: 2841-2847.

32. Yamagata K, Ueda J, Mizutani E, Saitou M, Wakayama T. (2010) Survival and death of epiblast cells during embryonic stem cell derivation revealed by long-term live-cell imaging with an Oct4 reporter system. **Dev Biol.** 346: 90-101.
33. Ono T., Li C., Mizutani E., Terashita Y., Yamagata K., and Wakayama T. (2010) Inhibition of Class IIb Histone Deacetylase Significantly Improves Cloning Efficiency in Mice. **Biol Reprod.** 83:929-937
34. Kim HR, Han RX, Wakayama T, Park CS, Jin DI. (2010) Aberrant protein expression in the placenta of cloned mouse derived from embryonic stem cell. **Placenta** 31:853-859.
35. Kai Y, Wang CC, Kishigami S, Kazuki Y, Abe S, Takiguchi M, Shirayoshi Y, Inoue T, Ito H, Wakayama T, and Oshimura M.(2009). Enhanced apoptosis during early neuronal differentiation in mouse ES cells with autosomal imbalance. **Cell. Res.** 19: 247-258.
36. Ohta H, Sakaide Y, and Wakayama T. (2009).Functional Analysis of Male Mouse Haploid Germ Cells of Various Differentiation Stages: Early and Late Round Spermatids Are Functionally Equivalent in Producing Progeny. **Biol. Reprod.** 80: 511-517.
37. Ohta H, Sakaide Y, and Wakayama T. (2009). Age- and substrain-dependent sperm abnormalities in BALB/c mice and functional assessment of abnormal sperm by ICSI. **Hum. Reprod.** 24:775-781
38. Li C, Mizutani E, Ono T, and Wakayama T. (2009) Production of normal mice from spermatozoa denatured with high alkali treatment before ICSI. **Reproduction** 137:779-792
39. Yamagata K, Suetsugu R, Wakayama T. (2009) Long-term, Six-dimensional Live-cell Imaging for the Mouse Preimplantation Embryo That Does Not Affect Full-term Development. **J Reprod Dev.** 55:343-350.
40. Bui HT, Hwang KC, Kim JH, VAN Thuan N, Wakayama T, Miyano T. (2009) Effect of Vanadate on the Chromatin Configuration in Pig GV-oocytes. **J Reprod Dev.** 55:367-372
41. Ohinata Y, Ohta H, Shigeta M, Yamanaka K, Wakayama T, Saitou M. (2009) A signaling principle for the specification of the germ cell lineage in mice. **Cell.** 137:571-584.
42. Van Thuan N, Bui HT, Kim JH, Hikichi T, Wakayama S, Kishigami S, Mizutani E, Wakayama T. (2009) The histone deacetylase inhibitor scriptaid enhances nascent mRNA production and rescues full-term development in cloned inbred mice. **Reproduction.**, 138:309-317
43. Yamagata K, Suetsugu R, Wakayama T. (2009) Assessment of chromosomal integrity using a novel live-cell imaging technique in mouse embryos produced by intracytoplasmic sperm injection. **Hum. Reprod.**, 24: 2490-2499.
44. Wakayama S, Kawahara Y, Li C, Yamagata K, Yuge L and Wakayama T. (2009) Detrimental Effects of Microgravity on Mouse Preimplantation Development in Vitro. **PloS ONE**, 4: e6753 1-10.

45. Ohta, H. Ohinata, Y. Ikawa, M. Morioka, Y. Sakaide, Y. Saitou, M. Kanagawa, O. Wakayama, T. (2009) Male Germline and Embryonic Stem Cell Lines from NOD Mice: Efficient Derivation of GS Cells from a Nonpermissive Strain for ES Cell Derivation **Biol. Reprod.** 81: 1147-1153.
46. Oda, M. Tanaka, S. Yamazaki, Y. Ohta, H. Iwatani, M. Suzuki, M. Ohgane, J. Hattori, N. Yanagimachi, R. Wakayama, T. Shiota, K. (2009) Establishment of trophoblast stem cell lines from somatic cell nuclear-transferred embryos **Proc Natl Acad Sci U S A.** 106 : 16293-16297
47. Wakayama S, Kishigami S, Thuan NV, Ohta H, Hikichi T, Mizutani E, Bui HT, Miyake M, and Wakayama T. (2008) Effect of volume of oocyte cytoplasm on embryo development after parthenogenetic activation, intracytoplasmic sperm injection, or somatic cell nuclear transfer. **Zygote** 16:211-222.
48. Hikichi T, Kohda T, Wakayama S, Ishino F, and Wakayama T. (2008) Nuclear Transfer Alters the DNA Methylation Status of Specific Genes in Fertilized And Parthenogenetically Activated Mouse Embryonic Stem Cells. **Stem Cells.** 26: 783-788.
49. Ohta H, Sakaide Y, and Wakayama T. (2008) The Birth of Mice from Testicular Spermatozoa Retrieved from Frozen Testicular Sections. **Biol Reprod** 78: 807-811.
50. Tabar V, Tomishima M, Panagiotakos G, Wakayama S, Menon J, Chan B, Mizutani E, Al-Shamy G, Ohta H, Wakayama T, and Studer L.(2008) Therapeutic cloning in individual parkinsonian mice. **Nat. Med.** 14: 379-381
51. Shibata S, Yokota T, and Wakayama T.(2008) X-chromosome inactivation in nuclear transfer ES cells. **Cytogenetic and Genome Research** 121:96-101
52. Suzuki T, Kondo S, and Wakayama T, Cizdziel PE, and Hayashizaki Y. (2008) Genome-Wide Analysis of Abnormal H3K9 Acetylation in Cloned Mice. **PLoS One** 3:e1905.
53. Ohta H, Sakaide Y, and Wakayama T. (2008) Long-Term Preservation of Mouse Spermatozoa as Frozen Testicular Sections **J. Reprod. Dev.** 54:295-298
54. Ohta H, Sakaide Y, Yamagata K, and Wakayama T.(2008) Increasing the Cell Number of Host Tetraploid Embryos Can Improve the Production of ES Mice. **Biol. Reprod.** 2008 79:486-492.
55. Mizutani E, Ono T, Li Chong, Maki-Suetsugu R, Wakayama T. (2008) Propagation of senescent mice using nuclear transfer embryonic stem cell lines. **Genesis** 46; 478-483
56. Ohta H., Sakaide Y., Wakayama T. (2008) Generation of ES mice using mouse blastocysts of different developmental ages. **Reproduction** 136:581-587
57. Ono T., Mizutani E., Li C., Wakayama T. (2008) Nuclear transfer preserves the nuclear genome of freeze-dried mouse cells. **J. Reprod Dev.** 54: 486-491.
58. Bui HT., Wakayama S., Kishigami S., Thuan NV. Wakayama T. (2008) The cytoplasm of mouse germinal vesicle (GV) stage oocytes can enhance somatic cell nuclear reprogramming. **Development** 135:3935-3945.
59. Wakayama S, Ohta H, Hikichi T, Mizutani E, Iwaki T, Kanagawa O, Wakayama T(2008)

- Production of healthy cloned mice from bodies frozen at -20°C for 16 years, **Proc Natl Acad Sci U S A.** 105, 17318–17322.
60. Nishida H, Kondo S, Suzuki T, Tsujimura Y, Komatsu S, Wakayama T, Y Hayashizaki (2008) An epigenetic aberration increased in intergenic regions of cloned mice. **Mammalian Genome** 19: 667-674.