細胞ゲノム機能学分野
Division of Genome and Cellular Functions

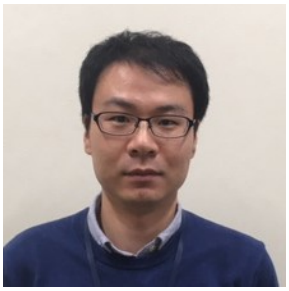
スタッフ紹介

教授　久郷裕之

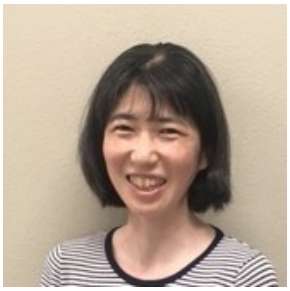
准教授　香月康宏

助教　平塚正治

助教　大平崇人



助教　森脇崇史



助教　三宅直美

染色体工学研究センター
Chromosome Engineering Research Center

スタッフ紹介

教授　久郷裕之

准教授　香月康宏

准教授　里深博幸

助教　香月加奈子

細胞ゲノム機能学分野と染色体工学研究センターの歴史

細胞ゲノム機能学

分子生物学講座細胞ゲノム機能学分野（旧：細胞工学）は、医学の基礎知識を持つバイオサイエンティストを養成する学科として全国に先駆け医学部内に設置された生命科学科の設立に伴い、1990 年より押村光雄先生が初代教授として着任し開講しました。2014 年より、2代目教授として久郷裕之先生が着任し新たな体制でスタートしました。2020 年、大学院医学系研究科機能再生医科学専攻、生命科学科専攻、保健学科専攻が統合され新たに医科学専攻の設置に伴い研究室名を細胞ゲノム機能学に変更しました。

染色体工学研究センター

2009 年に染色体工学研究センターが設置されたのち、2011 年に産学官共同研究拠点として「とっとりバイオフロンティア」が開所されました。

2018 年に採択された文部科学省事業「とっとり発医療イノベーション（創薬）産学官連携研究開発実証拠点」を推進するために、染色体工学研究センター内に「とっとり創薬実証センター」が開所されました。

現在職員（写真付き）

久郷裕之（1990 細胞工学助手→2003 遺伝子機能工学/細胞工学准教授→2014 遺伝子機能工学/細胞工学教授→2015 染色体工学研究センター長併任）
香月康宏（2005 遺伝子機能工学助手→2015 遺伝子機能学/細胞工学准教授→2018 とっとり創薬実証センター長併任）
里深博幸（2017 染色体工学研究センター准教授）
平塚正治（2007 細胞工学助手）
大平崇人（2015 遺伝子機能工学助教）
森脇崇史（2019 遺伝子機能工学助教）
香月加奈子（2014 染色体工学研究センター助教）
三宅直美（2019 遺伝子機能工学助教）

歴代職員（写真なし）

押村光雄（1990 細胞工学教授～2003 遺伝子機能工学教授～2009 染色体工学研究センター長併任～2014 定年退官、現名誉教授）
多田政子（2012～2016 染色体工学研究センター教授）
白吉安昭（1998～2002 細胞工学助教授～2006 細胞工学准教授）
尾崎充彦（2003～2011 遺伝子機能工学部門助教）
黒崎創（2008～2009 遺伝子機能工学部門助教）
阿部智志（2012～2014 遺伝子機能工学部門助教）
宇野愛海（2014～2018 遺伝子機能工学部門助教）

事務（2011 以降）
曽我万里栄、宅野奈緒美、清水優美、柴田奈緒美、野崎翔子、山本美由紀、
久郷かおり、前田真理、青山佳子、中野潤子、里深美香子

現在の研究テーマ

細胞ゲノム機能学

本講座では、開講以来から一貫して遺伝子・染色体導入や細胞融合によって自然界にない細胞を作り出し、病気の解明から治療への応用を目指しています。とりわけ、遺伝子の集合体として知られている染色体の特性を利用した独自の染色体工学技術開発より学問体系を確立し、細胞から個体レベルまで、且つ様々な研究領域で重要な研究成果をあげてきました。細胞や染色体レベルにおける機能解析を通して、生体高次機能の理解から疾病の解明までを目指します。

染色体工学技術を用いた発がん機構の解明

これまで染色体工学技術を通して新規がん抑制遺伝子を同定し、その機能解析を中心に進めてきた。しかし、がん抑制遺伝子単体よりむしろそれを含む染色体ドメインレベルにおけるがん抑制制御機構の存在が示唆されました。このことから、遺伝子および染色体ゲノムドメインレベルにおける両側面からの分子動態・シグナル伝達機構の統合的な機能解析による新しい切り口から新たな発がん機構の解明を目指し、創薬および治療法開発に向けた「創造性」のある次世代の制がん戦略の提示につなげたいと考えています。

ヒト／マウス人工染色体を用いたゲノムライティングと応用

我々は哺乳類細胞において自立複製・分配が可能なヒト人工染色体（HAC）およびマウス人工染色体（MAC）を構築し、Mb 単位の巨大なヒト遺伝子クラスターのマウス個体への導入にこれまでに成功してきました。現在では HAC/MAC 技術を用いて、「Mb 単位の合成 DNA を目的細胞に効率的に導入する基盤技術開発」を行い、「ゲノム配列の動作原理の解明」と「産業応用および医療応用」のための基盤となる技術を開発しています。

染色体工学研究センター

世界で唯一の染色体工学の研究センターである当センターでは、染色体工学技術の開発と医学や医薬品開発等に関する異分野との融合を図り、医療や新産業へのグローバルレベルでの発展に寄与することを目指しています。

また、筋ジストロフィー遺伝子治療プロジェクトを始め、癌の原因遺伝子の解明を進め産学の連携による治療薬の開発も目指しています。

当センターは 4 部門からなります。

生命現象研究部門

染色体の構造や遺伝子発現制御メカニズムの解明研究を行い、その成果を最新の染色体工学技術開発に役立てる。また、医学生命科学研究と染色体工学研究を融合できる人材の育成を行う。

バイオモデル動物開発部門

疾患モデル動物や医薬開発モデル動物の開発と共同研究の実施及び人材育成に貢献する。特に、ヒトの薬物代謝遺伝子をもつマウス・ラットの開発（医薬品開発に貢献）及びダウン症モデルラットの開発（精神疾患、アルツハイマー症候群やがんの治療モデル）を行う。

創薬開発・支援部門

ヒト抗体産生動物を用いた抗体医薬品開発及びその支援、体性幹細胞や iPS 細胞を用いて遺伝子治療や再生医療、更には医薬品開発に向けた基盤研究とその応用分野における人材育成。

特に、「とっとり創薬実証センター」を通して製薬企業と共に創薬開発に取り組む。

ゲノム編集技術開発部門

染色体工学技術にとって、簡便に染色体改変を行う技術は不可欠である。

従って、近年急速に発展してきたゲノム編集技術を導入し、既存の部門との融合を図り、染色体工学研究技術開発の加速化に繋げる。

論文業績

英文原著

Asamitsu S, Yabuki Y, Ikenoshita S, Kawakubo K, Kawasaki M, Usuki S, Nakayama Y, Adachi K, Kugoh H, Ishii K, Matsuura T, Nanba E, Sugiyama H, Fukuanga K, Shioda N. CGG repeat RNA G-quadruplexes interact with FMRpolyG to cause neuronal dysfunction in fragile X-related tremor/ataxia syndrome, ***Science Advances***, in press

Nakayama Y, Adachi K, Shioda N, Maeta S, Nanba E, *Kugoh H. Establishment of FXS-A9 panel with a single human X chromosome from Fragile X syndrome-associated individual. ***Experimental Cell Research***, in press

Suzuki S, Ohta KI, Nakajima Y, Shigeto H, Abe H, Kawai A, Miura R, Kazuki Y, Oshimura M, Miki T. Meganuclease-Based Artificial Transcription Factors. ***ACS Synth Biol.*** 2020 Oct 16;9(10):2679-2691. doi: 10.1021/acssynbio.0c00083. Epub 2020 Sep 18. PMID: 32907319.

Okuyama S, Kawamura F, Kubiura M, Tsuji S, Osaki M, Kugoh H, Oshimura M, Kazuki Y, Tada M. Real-time fluorometric evaluation of hepatoblast proliferation in vivo and in vitro using the expression of CYP3A7 coding for human fetus-specific P450. ***Pharmacol Res Perspect.*** 2020 Oct;8(5):e00642. doi:10.1002/prp2.642. PMID: 32886454; PMCID: PMC7507068.

Ohta Y, Kazuki K, Abe S, Oshimura M, Kobayashi K, Kazuki Y*. Development of Caco-2 cells expressing four CYPs via a mammalian artificial chromosome. ***BMC Biotechnol.*** 2020 Aug 20;20(1):44. doi: 10.1186/s12896-020-00637-8. PMID:32819341; PMCID: PMC7441628.

Iida Y, Yoshikawa R, Murata A, Kotani H, Kazuki Y, Oshimura M, Matsuzaki Y, Harada M. Local injection of CCL19-expressing mesenchymal stem cells augments the therapeutic efficacy of anti-PD-L1 antibody by promoting infiltration of immune cells. ***J Immunother Cancer.*** 2020 Jul;8(2):e000582. doi:10.1136/jitc-2020-000582. PMID: 32675195; PMCID: PMC7368496.

Kazuki Y*, Gao FJ, Li Y, Moyer AJ, Devenney B, Hiramatsu K, Miyagawa-Tomita S, Abe S, Kazuki K, Kajitani N, Uno N, Takehara S, Takiguchi M, Yamakawa M, Hasegawa A, Shimizu R, Matsukura S, Noda N, Ogonuki N, Inoue K, Matoba S, Ogura A, Florea LD, Savonenko A, Xiao M, Wu D, Batista DA, Yang J, Qiu Z, Singh N, Richtsmeier JT, Takeuchi T, Oshimura M, Reeves RH. A non-mosaic transchromosomic mouse model of down syndrome carrying the long arm of human chromosome 21. ***Elife.*** 2020 Jun 29;9:e56223. doi: 10.7554/eLife.56223. PMID: 32597754; PMCID: PMC7358007.

Nishinaka-Arai Y, Niwa A, Matsuo S, Kazuki Y, Yakura Y, Hiroma T, Toki T, Sakuma T, Yamamoto T, Ito E, Oshimura M, Nakahata T, Saito MK. Down syndrome-related transient abnormal myelopoiesis is attributed to a specific erythro-megakaryocytic subpopulation with GATA1 mutation. ***Haematologica.*** 2020 Apr 30:haematol.2019.242693. doi: 10.3324/haematol.2019.242693. Epub ahead of print. PMID: 32354872.

Tateishi Y, Ohe T, Yasuda D, Takahashi K, Nakamura S, Kazuki Y, Mashino T. Synthesis and evaluation

of nevirapine analogs to study the metabolic activation of nevirapine. ***Drug Metab Pharmacokinet.*** 2020 Feb 28. pii: S1347-4367(20)30011-2. doi: 10.1016/j.dmpk.2020.01.006. [Epub ahead of print] PubMed PMID: 32184040.

Moriwaki T, Abe S, Oshimura M, Kazuki Y*. Transchromosomic technology for genomically humanized animals. ***Exp Cell Res.*** 2020 Mar 3:111914. [Epub ahead of print] PubMed PMID: 32142854.

Suzuki T, Kazuki Y, Hara T, Oshimura M. Current advances in microcell-mediated chromosome transfer technology and its applications. ***Exp Cell Res.*** 2020 Feb 21:111915. doi: 10.1016/j.yexcr.2020.111915. [Epub ahead of print] PubMed PMID: 32092294.

Inaoka D, Sunamura N, Ohira T, Nakayama Y, *Kugoh H. A novel Xist RNA-mediated chromosome inactivation model using a mouse artificial chromosome. ***Biotechnol Lett.*** 42:697-705, 2020

Ohira T, Miyauchi K, Uno N, Shimizu N, Kazuki Y, Oshimura M, Kugoh H. An efficient protein production system via gene amplification on a human artificial chromosome and the chromosome transfer to CHO cells. ***Sci Rep.*** 2019 Nov 18;9(1):16954. doi:10.1038/s41598-019-53116-2. PubMed PMID: 31740706

Nakanishi M, Watanabe Y, Honda N, Une M, Kazuki K, Kazuki Y, Terashima T, Katagi M, Nakashima K, Hanajima R. Dynamics of host and graft after cell sheet transplantation: Basic study for the application of amyotrophic lateral sclerosis. ***Brain Res.*** 2019 Dec 1;1724:146444. doi:10.1016/j.brainres.2019.146444. Epub 2019 Sep 10. PubMed PMID: 31518575.

Kobayashi K, Kuze J, Abe S, Takehara S, Minegishi G, Igarashi K, Kitajima S, Kanno J, Yamamoto T, Oshimura M, Kazuki Y*. CYP3A4 Induction in the Liver and Intestine of Pregnane X Receptor/CYP3A-Humanized Mice: Approaches by Mass Spectrometry Imaging and Portal Blood Analysis. ***Mol Pharmacol.*** 2019 Nov;96(5):600-608. doi:10.1124/mol.119.117333. Epub 2019 Aug 27. PubMed PMID:31455676.

Minegishi G, Kazuki Y, Yamasaki Y, Okuya F, Akita H, Oshimura M, Kobayashi K. Comparison of the hepatic metabolism of triazolam in wild-type andCyp3a-knockout mice for understanding CYP3A-mediated metabolism inCYP3A-humanised mice in vivo. ***Xenobiotica.*** ;49(11):1303-1310. doi: 10.1080/00498254.2018.1560516. Epub 2019 Jun 14. PubMed PMID: 30561249.

Kanatsu-Shinohara M, Yamamoto T, Toh H, Kazuki Y, Kazuki K, Imoto J, Ikeo K, Oshima M, Shirahige K, Iwama A, Nabeshima Y, Sasaki H, Shinohara T. Aging of spermatogonial stem cells by Jnk-mediated glycolysis activation. ***Proc Natl Acad Sci U S A.*** 2019 Aug 13;116(33):16404-16409. doi: 10.1073/pnas.1904980116. Epub 2019 Jul 29. PubMed PMID: 31358627; PubMed Central PMCID: PMC6697785.

Kazuki Y*, Kobayashi K, Hirabayashi M, Abe S, Kajitani N, Kazuki K, Takehara S, Takiguchi M, Satoh D, Kuze J, Sakuma T, Kaneko T, Mashimo T, Osamura M, Hashimoto M, Wakatsuki R, Hirashima R, Fujiwara R, Deguchi T, Kurihara A, Tsukazaki Y,Senda N, Yamamoto T, Scheer N, Oshimura M. Humanized UGT2 and CYP3A transchromosomic rats for improved prediction of human drug metabolism. ***Proc Natl Acad Sci U S A.*** 2019 Feb 19;116(8):3072-3081. doi: 10.1073/pnas.1808255116. Epub 2019 Feb 4. PubMed PMID: 30718425; PubMed Central PMCID: PMC6386724.

Ohira T, Kojima H, Kuroda Y, Aoki S, Inaoka D, Osaki M, Wanibuchi H, Okada F, Oshimura M, *Kugoh H. PITX1 protein interacts with ZCCHC10 to regulate hTERT mRNA transcription. ***PLoS One,*** 14: e0217605, 2019.

Endo Y, Kuwamoto S, Ohira T, Matsushita M, Matsushige T, Fukuhara T, Nakamoto S, Hayashi K, Kugoh H, Hirooka Y. Possible Relationship Between *MYBL1* Alterations and Specific Primary Sites in

Adenoid Cystic Carcinoma: A Clinicopathological and Molecular Study of 36 Cases. ***Yonago Acta Med.,*** 62: 67-76, 2019.

Hiramatsu K, Abe S, Kazuki K, Osaki M, Kajitani N, Yakura Y, Oshimura M, Kazuki Y*. Generation of a novel isogenic trisomy panel in human embryonic stem cells via microcell-mediated chromosome transfer. ***Biochem Biophys Res Commun.*** 2019 Jan 8;508(2):603-607. doi: 10.1016/j.bbrc.2018.11.138. Epub 2018 Dec 1. PubMed PMID: 30509488.

Uno N, Fujimoto T, Komoto S, Kurosawa G, Sawa M, Suzuki T, Kazuki Y, Oshimura M. A luciferase complementation assay system using transferable mouse artificial chromosomes to monitor protein-protein interactions mediated by G protein-coupled receptors. ***Cytotechnology.*** 2018 Dec;70(6):1499-1508. doi:10.1007/s10616-018-0231-7. Epub 2018 Jul 31. PubMed PMID: 30112660; PubMed Central PMCID: PMC6269364.

Nitta SI, Hashimoto M, Kazuki Y, Takehara S, Suzuki H, Oshimura M, Akita H, Chiba K, Kobayashi K. Evaluation of 4β-Hydroxycholesterol and 25-Hydroxycholesterol as Endogenous Biomarkers of CYP3A4: Study with CYP3A-Humanized Mice. ***AAPS J.*** 2018 Apr 9;20(3):61. doi:10.1208/s12248-018-0186-9. PubMed PMID: 29858698.

Yamasaki Y, Kobayashi K, Okuya F, Kajitani N, Kazuki K, Abe S, Takehara S, Ito S, Ogata S, Uemura T, Ohtsuki S, Minegishi G, Akita H, Chiba K, Oshimura M, Kazuki Y*. Characterization of P-Glycoprotein Humanized Mice Generated by Chromosome Engineering Technology: Its Utility for Prediction of Drug Distribution to the Brain in Humans. ***Drug Metab Dispos.*** 2018 Nov;46(11):1756-1766. doi: 10.1124/dmd.118.081216. Epub 2018 May 18. PubMed PMID:29777024.

Wada N, Kazuki Y, Kazuki K, Inoue T, Fukui K, Oshimura M. Production of a Human Cell Line with a Plant Chromosome. ***Methods Mol Biol.*** 2018;1772:289-296. doi: 10.1007/978-1-4939-7795-6_16. PubMed PMID: 29754235.

Honma K, Abe S, Endo T, Uno N, Oshimura M, Ohbayashi T, Kazuki Y*. Development of a multiple-gene-loading method by combining multi-integration system-equipped mouse artificial chromosome vector and CRISPR-Cas9. ***PLoS One.*** 2018 Mar 5;13(3):e0193642. doi: 10.1371/journal.pone.0193642. eCollection 2018. PubMed PMID: 29505588; PubMed Central PMCID: PMC5837097. *Corresponding Author

Uno K, Murotomi K, Kazuki Y, Oshimura M, Nakajima Y. Bioluminescence-based cytotoxicity assay for simultaneous evaluation of cell viability and membrane damage in human hepatoma HepG2 cells. ***Luminescence.*** 2018 May;33(3):616-624. doi:10.1002/bio.3454. Epub 2018 Feb 8. PubMed PMID: 29424036.

Satoh D, Abe S, Kobayashi K, Nakajima Y, Oshimura M, Kazuki Y*. Human and mouse artificial chromosome technologies for studies of pharmacokinetics and toxicokinetics. ***Drug Metab Pharmacokinet.*** 2018 Feb;33(1):17-30. doi:10.1016/j.dmpk.2018.01.002. Epub 2018 Jan 11. Review. PubMed PMID: 29398301. *Corresponding Author

Benedetti S, Uno N, Hoshiya H, Ragazzi M, Ferrari G, Kazuki Y, Moyle LA, Tonlorenzi R, Lombardo A, Chaouch S, Mouly V, Moore M, Popplewell L, Kazuki K, Katoh M, Naldini L, Dickson G, Messina G, Oshimura M, Cossu G, Tedesco FS. Reversible immortalisation enables genetic correction of human muscle progenitors and engineering of next-generation human artificial chromosomes for Duchenne muscular dystrophy. ***EMBO Mol Med.*** 2018 Feb;10(2):254-275. doi: 10.15252/emmm.201607284.

Uno N, Abe S, Oshimura M, Kazuki Y*. Combinations of chromosome transfer and genome editing for the development of cell/animal models of human disease and humanized animal models. ***J Hum Genet.*** 2018 Feb;63(2):145-156. doi: 10.1038/s10038-017-0378-7. Epub 2017 Nov 27. Review.*Corresponding Author

Yamaguchi N, Osaki M, Onuma K, Yumioka T, Iwamoto H, Sejima T, Kugoh H, Takenaka A, Okada F. Identification of microRNAs involved in resistance to sunitinib in renal cell carcinoma cells. ***Anticancer Res.,*** 37: 2985-2992, 2017

Abe S, Kobayashi K, Oji A, Sakuma T, Kazuki K, Takehara S, Nakamura K, Okada A, Tsukazaki Y, Senda N, Honma K, Yamamoto T, Ikawa M, Chiba K, Oshimura M, Kazuki Y*. Modification of single-nucleotide polymorphism in a fully humanized CYP3A mouse by genome editing technology. ***Sci Rep.*** 2017 Nov 9;7(1):15189. doi:10.1038/s41598-017-15033-0. PubMed PMID: 29123154. *Corresponding Author

Satoh D, Iwado S, Abe S, Kazuki K, Wakuri S, Oshimura M, Kazuki Y*. Establishment of a novel hepatocyte model that expresses four cytochrome P450 genes stably via mammalian-derived artificial chromosome for pharmacokinetics and toxicity studies. ***PLoS One.*** 2017 Oct 24;12(10):e0187072. doi:10.1371/journal.pone.0187072. eCollection 2017. PubMed PMID: 29065189; PubMed Central PMCID: PMC5655360. *Corresponding Author

Uno N, Hiramatsu K, Uno K, Komoto S, Kazuki Y, Oshimura M. CRISPR/Cas9-induced transgene insertion and telomere-associated truncation of a single human chromosome for chromosome engineering in CHO and A9 cells. ***Sci Rep.*** 2017 Oct 6;7(1):12739. doi: 10.1038/s41598-017-10418-7. PubMed PMID: 28986519.

Shinohara T, Kazuki K, Ogonuki N, Morimoto H, Matoba S, Hiramatsu K, Honma K, Suzuki T, Hara T, Ogura A, Oshimura M, Kanatsu-Shinohara M, Kazuki Y*. Transfer of a Mouse Artificial Chromosome into Spermatogonial Stem Cells Generates Transchromosomic Mice. ***Stem Cell Reports.*** 2017 Oct 10;9(4):1180-1191. doi:10.1016/j.stemcr.2017.08.012. Epub 2017 Sep 21. PubMed PMID: 28943251. *Corresponding Author

Murayama N, Kazuki Y, Satoh D, Arata K, Harada T, Shibata N, Guengerich FP, Yamazaki H. Induction of human cytochrome P450 3A enzymes in cultured placental cells by thalidomide and relevance to bioactivation and toxicity. ***J Toxicol Sci.*** 2017;42(3):343-348. doi: 10.2131/jts.42.343. PubMed PMID: 28496040.

Kobayashi K, Abe C, Endo M, Kazuki Y, Oshimura M, Chiba K. Gender difference of hepatic and intestinal CYP3A4 in CYP3A-humanized mice generated by a human chromosome-engineering technique. ***Drug Metab Lett.*** 2017 Nov 17;11(1):60-67. doi: 10.2174/1872312811666170404153804.

Tomimatsu K, Kokura K, Nishida T, Yoshimura Y, Kazuki Y, Narita M, Oshimura M,Ohbayashi T. Multiple expression cassette exchange via TP901-1, R4, and Bxb1 integrase systems on a mouse artificial chromosome. ***FEBS Open Bio.*** 2017 Jan 28;7(3):306-317. doi: 10.1002/2211-5463.12169. PubMed PMID: 28286726; PubMed Central PMCID: PMC5337897.

Takenaka T, Kazuki K, Harada N, Kuze J, Chiba M, Iwao T, Matsunaga T, Abe S, Oshimura M, Kazuki Y.* Development of Caco-2 cells co-expressing CYP3A4 and NADPH-cytochrome P450 reductase using a human artificial chromosome for the prediction of intestinal extraction ratio of CYP3A4 substrates. ***Drug Metab Pharmacokinet.*** 2017 Feb;32(1):61-68. doi: 10.1016/j.dmpk.2016.08.004. PubMed PMID: 28139373. *Corresponding Author

Wakuri S, Yamakage K, Kazuki Y, Kazuki K, Oshimura M, Aburatani S, Yasunaga M, Nakajima Y. Correlation between luminescence intensity and cytotoxicity in cell-based cytotoxicity assay using luciferase. ***Anal Biochem.*** 2017 Apr 1;522:18-29. doi: 10.1016/j.ab.2017.01.015. PubMed PMID: 28111305.

Takenobu M, Osaki M, Fujiwara K, Fukuhara T, Kitano H, Kugoh H, Okada F. PITX1 is a possible predictor of the response to chemoth0erapy in head and neck squamous cell carcinoma. ***Mol Clin Oncol,*** 5(1): 89-94, 2016

Sunamura N, Ohira T, Kataoka M, Inaoka D, Tanabe H, Nakayama Y, Oshimura M, *Kugoh H. Regulation of functional *KCNQ1OT1* lncRNA by β-catenin. ***Scientific Reports,*** 6: 20690, 2016.

Tsukazaki Y, Senda N, Kubo K, Yamada S, Kugoh H, Kazuki Y, Oshimura M. Development of a High-Sensitivity Quantitation Method for Arginine Vasopressin by High-Performance Liquid Chromatography Tandem Mass Spectrometry, and Comparison with Quantitative Values by Radioimmunoassay. ***Anal Sci.,*** 32(2): 153-159, 2016.

*Kugoh H., Ohira T, Oshimura M. Studies of tumor suppressor genes via chromosome engineering ***Cancers,*** 8: 4, 2016.

Kokura K, Kuromi Y, Endo T, Anzai N, Kazuki Y, Oshimura M, Ohbayashi T. A kidney injury molecule-1 (Kim-1) gene reporter in a mouse artificial chromosome: the responsiveness to cisplatin toxicity in immortalized mouse kidney S3 cells. ***J Gene Med.*** 2016 Oct;18(10):273-281. doi: 10.1002/jgm.2925. PubMed PMID: 27591740; PubMed Central PMCID: PMC5095820.

Wada N, Kazuki Y, Kazuki K, Inoue T, Fukui K, Oshimura M. Maintenance and Function of a Plant Chromosome in Human Cells. ***ACS Synth Biol.*** 2017 Feb 17;6(2):301-310. doi: 10.1021/acssynbio.6b00180. PubMed PMID: 27696824.

Shiba Y, Gomibuchi T, Seto T, Wada Y, Ichimura H, Tanaka Y, Ogasawara T, Okada K, Shiba N, Sakamoto K, Ido D, Shiina T, Ohkura M, Nakai J, Uno N, Kazuki Y, Oshimura M, Minami I, Ikeda U. Allogeneic transplantation of iPS cell-derived cardiomyocytes regenerates primate hearts. ***Nature.*** 2016 Oct 20;538(7625):388-391. doi: 10.1038/nature19815. Epub 2016 Oct 10.

Do L, Wittayarat M, Terazono T, Sato Y, Taniguchi M, Tanihara F, Takemoto T, Kazuki Y, Kazuki K, Oshimura M, Otoi T. Effects of duration of electric pulse on in vitro development of cloned cat embryos with human artificial chromosome vector. ***Reprod Domest Anim.*** 2016 Dec;51(6):1039-1043. doi: 10.1111/rda.12766. Epub 2016 Aug 28.

Nakamura K, Morimoto K, Shima K, Yoshimura Y, Kazuki Y, Suzuki O, Matsuda J, Ohbayashi T. The effect of supplementation of amino acids and taurine to modified KSOM culture medium on rat embryo development. ***Theriogenology.*** 2016 Nov;86(8):2083-90. doi: 10.1016/j.theriogenology.2016.07.001. Epub 2016 Jul 13. PubMed PMID: 27527405.

Endo T, Noda N, Kuromi Y, Kokura K, Kazuki Y, Oshimura M, Ohbayashi T. Evaluation of an Hprt-Luciferase Reporter Gene on a Mammalian Artificial Chromosome in Response to Cytotoxicity. ***Yonago Acta Med.*** 2016 Jun 29;59(2):174-82. eCollection 2016 Jun. PubMed PMID: 27493490; PubMed Central PMCID: PMC4973025.

Yamazaki H, Suemizu H, Kazuki Y, Oofusa K, Kuribayashi S, Shimizu M, Ninomiya S, Horie T, Shibata N, Guengerich FP. Assessment of Protein Binding of 5-Hydroxythalidomide Bioactivated in Humanized Mice with Human P450 3A-Chromosome or Hepatocytes by Two-Dimensional Electrophoresis/Accelerator Mass Spectrometry. ***Chem Res Toxicol.*** 2016 Aug 15;29(8):1279-81. doi: 10.1021/acs.chemrestox.6b00210. Epub 2016 Jul 29. PubMed PMID: 27464947.

Suzuki T, Kazuki Y, Oshimura M, Hara T. Highly Efficient Transfer of Chromosomes to a Broad Range of Target Cells Using Chinese Hamster Ovary Cells Expressing Murine Leukemia Virus-Derived Envelope Proteins. ***PLoS One.*** 2016 Jun 7;11(6):e0157187. doi: 10.1371/journal.pone.0157187. eCollection 2016.

Choi IY, Lim H, Estrellas K, Mula J, Cohen TV, Zhang Y, Donnelly CJ, Richard JP, Kim YJ, Kim H, Kazuki Y, Oshimura M, Li HL, Hotta A, Rothstein J, Maragakis N, Wagner KR, Lee G. Concordant but Varied Phenotypes among Duchenne Muscular Dystrophy Patient-Specific Myoblasts Derived using a Human iPSC-Based Model. ***Cell Rep.*** 2016 Jun 7;15(10):2301-12. doi: 10.1016/j.celrep.2016.05.016.

Epub 2016 May 26. PubMed PMID: 27239027.

Hashimoto M, Kobayashi K, Yamazaki M, Kazuki Y, Takehara S, Oshimura M, Chiba K. Cyp3a deficiency enhances androgen receptor activity and cholesterol synthesis in the mouse prostate. ***J Steroid Biochem Mol Biol.*** 2016 Oct;163:121-8. doi: 10.1016/j.jsbmb.2016.04.018. Epub 2016 Apr 29.

Bintu L, Yong J, Antebi YE, McCue K, Kazuki Y, Uno N, Oshimura M, Elowitz MB. Dynamics of epigenetic regulation at the single-cell level. ***Science.*** 2016 Feb 12;351(6274):720-4. doi: 10.1126/science.aab2956. PubMed PMID: 26912859.

Kazuki Y*, Akita M, Kobayashi K, Osaki M, Satoh D, Ohta R, Abe S, Takehara S, Kazuki K, Yamazaki H, Kamataki T, Oshimura M. Thalidomide-induced limb abnormalities in a humanized CYP3A mouse model. ***Sci Rep***. 2016 Feb 23;6:21419. doi: 10.1038/srep21419. PubMed PMID: 26903378; PubMed Central PMCID: PMC4763305. *Corresponding Author

Tsukazaki Y, Senda N, Kubo K, Yamada S, Kugoh H, Kazuki Y, Oshimura M. Development of a High-Sensitivity Quantitation Method for Arginine Vasopressin by High-Performance Liquid Chromatography Tandem Mass Spectrometry, and Comparison with Quantitative Values by Radioimmunoassay. ***Anal Sci.*** 2016;32(2):153-9. doi: 10.2116/analsci.32.153. PubMed PMID: 26860558.

Nishio S, Ohhira T, Sunamura N, Oshimura M, Ryoke K, *Kugoh H. Repression of hTERT transcription by the introduction of chromosome 3 into human oral squamous cell carcinoma. ***Biochem Biophys Res Commun.,*** 466: 755-759, 2015.

Ohira T, Sunamura N, Nakayama Y, Osaki M, Okada F, Oshimura M, *Kugoh H. miR-19b regulates hTERT mRNA expression through targeting PITX1 mRNA in melanoma cells. ***Scientific Reports*****,** 5: 8201, 2015.

Uno N, Uno K, Komoto S, Suzuki T, Hiratsuka M, Osaki M, Kazuki Y, Oshimura M. Development of a Safeguard System Using an Episomal Mammalian Artificial Chromosome for Gene and Cell Therapy. ***Mol Ther Nucleic Acids***. 2015 Dec 15;4:e272. doi: 10.1038/mtna.2015.45.

Watanabe Y, Kazuki Y, Kazuki K, Ebiki M, Nakanishi M, Nakamura K, Yoshida Yamakawa M, Hosokawa H, Ohbayashi T, Oshimura M, Nakashima K. Use of a Human Artificial Chromosome for Delivering Trophic Factors in a Rodent Model of Amyotrophic Lateral Sclerosis. ***Mol Ther Nucleic Acids.*** 2015 Oct 6;4:e253. doi:10.1038/mtna.2015.28. PubMed PMID: 26440597; PubMed Central PMCID: PMC4881756.

Nakada N, Kawamura A, Kamimura H, Sato K, Kazuki Y, Kakuni M, Ohbuchi M, Kato K, Tateno C, Oshimura M, Usui T. Murine Cyp3a knockout chimeric mice with humanized liver: prediction of the metabolic profile of nefazodone in humans. ***Biopharm Drug Dispos.*** 2016 Jan;37(1):3-14. doi: 10.1002/bdd.1990. PubMed PMID:26352195.

Narai T, Katoh M, Inoue T, Taniguchi M, Kazuki K, Kazuki Y, Sato K, Kodani I, Ryoke K, Oshimura M. Construction of a Luciferase Reporter System to Monitor Osteogenic Differentiation of Mesenchymal Stem Cells by Using a Mammalian Artificial Chromosome Vector. ***Yonago Acta Med.*** 2015 Mar;58(1):23-9. Epub 2015 Mar 27.

Hiratsuka M, Ueda K, Uno N, Uno K, Fukuhara S, Kurosaki H, Takehara S, Osaki M, Kazuki Y, Kurosawa Y, Nakamura T, Katoh M, Oshimura M. Retargeting of microcell fusion towards recipient cell-oriented transfer of human artificial chromosome. ***BMC Biotechnol.*** 2015 Jun 19;15:58. doi: 10.1186/s12896-015-0142-z.

Yoshimura Y, Nakamura K, Endo T, Kajitani N, Kazuki K, Kazuki Y, Kugoh H, Oshimura M, Ohbayashi T. Mouse embryonic stem cells with a multi-integrase mouse artificial chromosome for transchromosomic mouse generation. ***Transgenic Res***. 2015

Kato K, Ohbuchi M, Hamamura S, Ohshita H, Kazuki Y, Oshimura M, Sato K, Nakada N, Kawamura A, Usui T, Kamimura H, Tateno C. Development of Murine Cyp3a Knockout Chimeric Mice with Humanized Liver. ***Drug Metab Dispos.*** 2015 Aug;43(8):1208-17. doi: 10.1124/dmd.115.063479. Epub 2015 May 15. Aug;24(4):717-27. doi: 10.1007/s11248-015-9884-6. Epub 2015 Jun 9.

Nakayama Y, Uno N, Uno K, Mizoguchi Y, Komoto S, Kazuki Y, Nanba E, Inoue T, Oshimura M. Recurrent Micronucleation through Cell Cycle Progression in the Presence of Microtubule Inhibitors. ***Cell Struct Funct.*** 2015 Mar 17;40(1):51-9. doi: 10.1247/csf.14005. Epub 2015 Jan 9.

Oshimura M, Uno N, Kazuki Y, Katoh M, Inoue T. A pathway from chromosome transfer to engineering resulting in human and mouse artificial chromosomes for a variety of applications to bio-medical challenges. ***Chromosome Res.*** 2015 Feb;23(1):111-33. doi: 10.1007/s10577-014-9459-z.

Nakabayashi M, Osaki M, Kodani I, Okada F, Ryoke K, Oshimura M, Ito H, Kugoh H. PITX1 is reliable biomarker for predicting prognosis in patients with oral epithelial dysplasia. ***Oncology Letters,*** 7: 750-754, 2014.

Shimamoto A, Kagawa H, Zensho K, Sera Y, Kazuki Y, Osaki M, Oshimura M, Ishigaki Y, Hamasaki K, Kodama Y, Yuasa S, Fukuda K, Hirashima K, Seimiya H, Koyama H, Shimizu T, Takemoto M, Yokote K, Goto M, Tahara H. Reprogramming Suppresses Premature Senescence Phenotypes of Werner Syndrome Cells and Maintains Chromosomal Stability over Long-Term Culture. ***PLoS One.*** 9(11):e112900. doi: 10.1371/journal.pone.0112900. eCollection 2014 Nov 12.

Suzuki T, Kazuki Y, Oshimura M, Hara T. A novel system for simultaneous or sequential integration of multiple gene-loading vectors into a defined site of a human artificial chromosome. ***PLoS One.*** 2014 Oct 10;9(10):e110404. doi: 10.1371/journal.pone.0110404. eCollection 2014.

Kazuki Y*, Yakura Y, Abe S, Osaki M, Kajitani N, Kazuki K, Takehara S, Honma K, Suemori H, Yamazaki S, Sakuma T, Toki T, Shimizu R, Nakauchi H, Yamamoto T and Oshimura M, Down syndrome-associated haematopoiesis abnormalities created by chromosome transfer and genome editing technologies, ***Sci. Rep.*** 2014 Aug 27;4:6136. doi: 10.1038/srep06136. *Corresponding Author

Tsuji S, Kawamura F, Kubiura M, Hayashi A, Ohbayashi T, Kazuki Y, Chesné C, Oshimura M, Tada M. Dual-Color Fluorescence Imaging to Monitor CYP3A4 and CYP3A7 Expression in Human Hepatic Carcinoma HepG2 and HepaRG Cells. ***PLoS One.*** 2014 Aug 7;9(8):e104123. doi: 10.1371/journal.pone.0104123. eCollection 2014.

Iida Y, Kazuki Y, Hayashi M, Ueda Y, Hasegawa M, Kouprina N, Larionov V, Oshimura M. Bi-HAC vector system toward gene and cell therapy. ***ACS Synth Biol.*** 2014 Feb 21;3(2):83-90. doi: 10.1021/sb400166j. Epub 2014 Jan 9.

Wakai M, Abe S, Kazuki Y, Oshimura M, Ishikawa F. A human artificial chromosome recapitulates the metabolism of native telomeres in Mammalian cells. ***PLoS One.*** 2014 Feb 18;9(2):e88530. doi: 10.1371/journal.pone.0088530. eCollection 2014.

Takehara S, Schulz TC, Abe S, Takiguchi M, Kazuki K, Kishigami S, Wakayama T, Tomizuka K, Oshimura M, Kazuki Y.* A novel transchromosomic system: stable maintenance of an engineered Mb-sized human genomic fragment translocated to a mouse chromosome terminal region. ***Transgenic Res.*** 2014 Jun;23(3):441-53. doi: 10.1007/s11248-014-9781-4. Epub 2014 Feb 2. *Corresponding Author

Osaki M, Chinen H, Yoshida Y, Ohhira T, Sunamura N, Yamamoto O, Ito H, Oshimura M, Kugoh H. Decreased PITX1 gene expression in human cutaneous malignant melanoma and its clinicopathological significance ***European Journal of Dermatology*****,** 23(3): 344-349, 2013.

Oshimura M., Kazuki Y. , Iida Y., Uno N. 2013. New Vectors for Gene Delivery: Human and Mouse Artificial Chromosomes. John Wiley & Sons, Ltd. All. DOI: 10.1002/9780470015902.a0024474

Uno N., Kazuki Y, Oshimura M. 2014. Toward Gene and Cell Therapies Employing Human Artificial Chromosomes in Conjunction with Stem Cells. ***Clon. Transgen.*** 3:122 doi: 10.4172/2168-9849.1000122

Kazuki K, Takehara S, Uno N, Imaoka N, Abe S, Takiguchi M, Hiramatsu K, Oshimura M, Kazuki Y.* (2013 Dec 6) Highly stable maintenance of a mouse artificial chromosome in human cells and mice. ***Biochem Biophys Res Commun.*** 442(1-2):44-50. doi: 10.1016/j.bbrc.2013.10.171. Epub 2013 Nov 9. *Corresponding Author

Miyake K, Yang C, Minakuchi Y, Ohori K, Soutome M, Hirasawa T, Kazuki Y, Adachi N, Suzuki S, Itoh M, Goto YI, Andoh T, Kurosawa H, Oshimura M, Sasaki M, Toyoda A, Kubota T. (2013 Jun) Comparison of Genomic and Epigenomic Expression in Monozygotic Twins Discordant for Rett Syndrome. ***PLoS One.*** 2013 Jun 21;8(6):e66729.

Hashimoto M, Kobayashi K, Watanabe M, Kazuki Y, Takehara S, Inaba A, Nitta S, Senda N, Oshimura M, Chiba K. (2013 Aug) Knockout of mouse Cyp3a gene enhances synthesis of cholesterol and bile acid in the liver. ***J Lipid Res.*** 54(8):2060-8. doi: 10.1194/jlr.M033464. Epub 2013 May 24.

Takiguchi M, Kazuki Y, Hiramatsu K, Abe S, Iida Y, Takehara S, Nishida T, Ohbayashi T, Wakayama T, Oshimura M. (2012 Nov) A Novel and Stable Mouse Artificial Chromosome Vector. ***ACS Synth. Biol.*** doi.org/10.1021/sb3000723. Epub 2014 Feb 2.

Yakura Y, Ishihara C, Kurosaki H, Kazuki Y, Komatsu N, Okada Y, Doi T, Takeya H, Oshimura M. (2013 Feb) An induced pluripotent stem cell-mediated and integration-free factor VIII expression system. ***Biochem Biophys Res Commun***. 431(2):336-41. doi: 10.1016/j.bbrc.2012.12.096. Epub 2013 Jan 3.

Kazuki Y, Kobayashi K, Aueviriyavit S, Oshima T, Kuroiwa Y, Tsukazaki Y, Senda N, Kawakami H, Ohtsuki S, Abe S, Takiguchi M, Hoshiya H, Kajitani N, Takehara S, Kubo K, Terasaki T, Chiba K, Tomizuka K, Oshimura M. (2013 Feb) Trans-chromosomic mice containing a human CYP3A cluster for prediction of xenobiotic metabolism in humans. ***Hum Mol Genet.*** 2013 Feb 1; 22(3):578-92. doi: 10.1093/hmg/dds468.

Li J, Koike J, Kugoh H, Arita M, Ohhira T, Kikuchi Y, Funahashi K, Takamatsu K, Boland CR, Koi M, Hemmi H. Down-regulation of *MutS* homolog 3 by hypoxia in human colorectal cancer. ***Biochim Biophys Acta -Molecular Cell Research,*** 1823(4): 889-899, 2012.

Watanabe Y, Kazuki Y, Oshimura M, Ikemura T, Maekawa M. (2012 Nov) Replication timing in a single human chromosome 11 transferred into the Chinese hamster ovary (CHO) cell line. ***Gene.*** 510(1):1-6. doi: 10.1016/j.gene.2012.08.045.

Nakanishi T, Kokubun K, Oda H, Aoki M, Soma A, Taniguchi M, Kazuki Y, Oshimura M, Sato K. (2012 Sep) Bioluminescence imaging of bone formation using hairless osteocalcin-luciferase transgenic mice. ***Bone.*** 2012 Sep;51(3):369-75. doi: 10.1016/j.bone.2012.06.012. Epub 2012 Jun 23.

Takehashi M, Tada M, Kanatsu-Shinohara M, Morimoto H, Kazuki Y, Oshimura M, Tada T, Shinohara T. (2012 Mar) Hybridization of Testis-Derived Stem Cells with Somatic Cells and Embryonic Stem

Cells in Mice. ***Biol Reprod.*** Jun 14;86(6):178. doi: 10.1095/biolreprod.112.098988.

Nawata H, Genro Kashino G, Tano K, Daino K, Shimada Y, H Kugoh H, Oshimura M, Watanabe M. Dysregulation of Gene Expression in the Artificial Human Trisomy Cells of Chromosome 8 Associated with Transformed Cell Phenotypes. ***PLoS ONE,*** 6(9): e25319, 2011

Qi DL, Ohhira T, Fujisaki C, Inoue T, Ohta T, Osaki M, Ohshiro E, Seko T, Aoki S, Oshimura M & *Kugoh H. Identification of *PITX1* as a *TERT* suppressor gene located on human chromosome 5. ***Mol. Cell Biol.,*** 31(8): 1624-1636, 2011

Kakeda M, Nagata K, Osawa K, Matsuno H, Hiratsuka M, Sano A, Okazaki A, Shitara S, Nishikawa S, Masuya A, Hata T, Wako S, Osaki M, Kazuki Y, Oshimura M, Tomizuka K. (2011 Nov) A new chromosome 14-based human artificial chromosome (HAC) vector system for efficient transgene expression in human primary cells. ***Biochem Biophys Res Commun.*** 2011 Nov 25;415(3):439-44. doi: 10.1016/j.bbrc.2011.10.088. Epub 2011 Oct 22.

Yasunaga M, Oumi N, Osaki M, Kazuki Y, Nakanishi T, Oshimura M, Sato K. (2011 Sep) Establishment and characterization of a transgenic mouse model for in vivo imaging of bmp4 expression in the pancreas. ***PLoS One.*** 2011;6(9):e24956. doi: 10.1371/journal.pone.0024956. Epub 2011 Sep 15.

Hiratsuka M, Uno N, Ueda K, Kurosaki H, Imaoka N, Kazuki K, Ueno E, Akakura Y, Katoh M, Osaki M, Kazuki Y, Nakagawa M, Yamanaka S, Oshimura M. (2011 Oct) Integration-Free iPS Cells Engineered Using Human Artificial Chromosome Vectors. ***PLoS One.*** 2011;6(10):e25961. doi: 10.1371/journal.pone.0025961. Epub 2011 Oct 5.

Tedesco FS, Hoshiya H, D'Antona G, Gerli MF, Messina G, Antonini S, Tonlorenzi R, Benedetti S, Berghella L, Torrente Y, Kazuki Y, Bottinelli R, Oshimura M, Cossu G. (2011 Aug) Stem cell-mediated transfer of a human artificial chromosome ameliorates muscular dystrophy. ***Sci Transl Med.*** Aug 17;3(96):96ra78. doi: 10.1126/scitranslmed.3002342.

Kurosaki H, Hiratsuka M, Imaoka N, Iida Y, Uno N, Kazuki Y, Ishihara C, Yakura Y, Mimuro J, Sakata Y, Takeya H, Oshimura M. (2011 Oct) Integration-free and stable expression of FVIII using a human artificial chromosome. ***J Hum Genet.*** 2011 Oct;56(10):727-33. doi: 10.1038/jhg.2011.88. Epub 2011 Aug 11.

Kazuki Y, Oshimura M. (2011 Sep) Human Artificial Chromosomes for Gene Delivery and the Development of Animal Models. ***Mol Ther.*** 2011 Sep;19(9):1591-601. doi: 10.1038/mt.2011.136. Epub 2011 Jul 12. Review.

Wang CC, Kazuki Y, Oshimura M, Ikeo K, Gojobori T. (2011 Aug) Gene dosage imbalance of human chromosome 21 in mouse embryonic stem cells differentiating to neurons. ***Gene.*** 2011 Aug 1;481(2):93-101. doi: 10.1016/j.gene.2011.04.003. Epub 2011 Apr 27.

Yamaguchi S, Niwa R, Kazuki Y, Ohbayashi T. Application of a bacterial artificial chromosome modification system for a human artificial chromosome vector. ***Yonago Acta Medica.*** 2011 Mar;54(1):21-31. Epub 2011 Mar 1.

Yamaguchi S, Kazuki Y, Nakayama Y, Nanba E, Oshimura M, Ohbayashi T. (2011 Feb) A method for producing transgenic cells using a multi-integrase system on a human artificial chromosome vector. ***PLoS One.*** 2011 Feb 24;6(2):e17267. doi: 10.1371/journal.pone.0017267.

Kazuki Y, Hoshiya H, Takiguchi M, Abe S, Iida Y, Osaki M, Katoh M, Hiratsuka M, Shirayoshi Y, Hiramatsu K, Ueno E, Kajitani N,Yoshino T, Kazuki K, Ishihara C, Takehara S, Tsuji S, Ejima F, Toyoda A, Sakaki Y, Larionov V, Kouprina N and Oshimura M (2010 Nov) Refined human artificial

chromosome vectors for gene therapy and animal transgenesis. ***Gene therapy.*** 2011 Apr;18(4):384-93. doi: 10.1038/gt.2010.147. Epub 2010 Nov 18.

Qi DL, Ohhira T, Oshimura M, *Kugoh H. Human chromosome 5 carries a transcriptional regulator of human telomerase reverse transcriptase (hTERT). ***Biochem Biophys Res Commun.,*** 398(4): 695-701, 2010

Abe S., Tanaka H., Notsu T., Horike S., Fujisaki C., Qi DL., Ohhira T., Gilley D., Oshimura M., *Kugoh H. Localization of an hTERT repressor region on human chromosome 3p21.3 using chromosome engineering. ***Genome Integrity,*** 1(1): 6, 2010

Iida Y, Kim JH, Kazuki Y, Hoshiya H, Takiguchi M, Hayashi M, Erliandri I, Lee HS, Samoshkin A, Masumoto H, Earnshaw WC, Kouprina N, Larionov V, Oshimura M (2010 Aug) Human Artificial Chromosome with a Conditional Centromere for Gene Delivery and Gene Expression. ***DNA Res***. 2010 Oct;17(5):293-301. doi: 10.1093/dnares/dsq020. Epub 2010 Aug 26.

Katoh M, Kazuki Y, Kazuki K, Kajitani N, Takiguchi M, Nakayama Y, Nakamura T, Oshimura M. (2010 May) Exploitation of the interaction of measles virus fusogenic envelope proteins with the surface receptor CD46 on human cells for microcell-mediated chromosome transfer. ***BMC Biotechnol.*** 2010 May 6;10:37. doi: 10.1186/1472-6750-10-37.

Takahashi Y., Tsuji S., Kazuki Y., Noguchi M., Arifuku I., Umebayashi Y., Nakanishi T., Oshimura M., Sato K. (2010 Jul.) Development of evaluation system for bioactive substances using human artificial chromosome-mediated osteocalcin gene expression. ***J Biochem.*** 2010 Jul;148(1):29-34. doi: 10.1093/jb/mvq030. Epub 2010 Mar 17.

Kazuki Y., Hiratsuka M., Takiguchi M., Osaki M., Kajitani N., Hoshiya H., Hiramatsu K., Yoshino T., Kazuki K., Ishihara C., Takehara S., Higaki K., Nakagawa M., Takahashi K., Yamanaka S. and Oshimura M. (2010 Feb.) Complete genetic correction of iPS cells from Duchenne muscular dystrophy. ***Mol. Therapy.*** 2010 Feb;18(2):386-93. doi: 10.1038/mt.2009.274. Epub 2009 Dec 8.

Kinoshita Y., Kamitani H., Mamun M.H., Wasita B., Kazuki Y., Hiratsuka M., Oshimura M., Watanabe T. (2010 May.) A gene delivery system with a human artificial chromosome vector based on migration of mesenchymal stem cells towards human glioblastoma HTB14 cells. ***Neurol Res.*** 2010 May;32(4):429-37. doi: 10.1179/174313209X455718. Epub 2009 Jul 8.

和文著書・総説

久郷裕之：染色体工学技術を用いたがん抑制遺伝子の同定　米子医誌 66(6):109-120, 2015

砂村直洋、久郷裕之　長鎖ノンコーディング RNA による染色体ドメインレベルの遺伝子発現制御 細胞工学, vol.34, No.1, 14-23, 2015, 秀潤社

片岡美喜、久郷裕之　ゲノムインプリンティング-核内におけるインプリント遺伝子の発現動態-　生体の科学, vol.68, No.3, 209-214, 2017, 秀潤社

日本学術振興会特別研究員（2011-2020 年度）

[名称]：日本学術振興会 特別研究員 DC1（研究代表者：矢倉裕奈）
[期間]：平成 22 年度～24 年度（2010~2012）
[研究課題名]：ヒト人工染色体を用いた血友病の新規治療法の開発

[名称]：日本学術振興会 特別研究員 PD（研究代表者：和田直樹）
[期間]：平成 23 年度～25 年度（2011~2013）
[研究課題名]：新規の植物育種のための植物人工染色体ベクターの作出

[名称]：日本学術振興会 特別研究員 DC2（研究代表者：大平崇人）
[期間]：平成 25 年度～26 年度（2013~2014）
[研究課題名]：新規がん抑制遺伝子の機能解析から解き明かすテロメレース発現制御ネットワーク

[名称]：日本学術振興会 特別研究員 DC1（研究代表者：首浦武作志）
[期間]：平成 26 年度～28 年度（2014~2016）
[研究課題名]：ES 細胞における DNA メチル化と脱メチル化の細胞周期依存的連続変換現象の機構解明

[名称]：日本学術振興会特別研究員 DC1（研究代表者：稲岡大悟）
[期間]：平成 29 年度～31 年度（2017~2019）
[研究課題名]：X 染色体不活性化機構の解明に向けた人工染色体の活用