

# Koya YOSHIZAWA

## Personal Information

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## Research Experience

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2025–Present Postdoctoral fellow, Faculty of Advanced Life Science, Hokkaido University  
In the group of [Ryota Uehara](#)  
Jul–Nov, 2024 Visiting scholar at Mechanobiology Institute, National University of Singapore, Singapore  
Supervisor: [Jin Zhu](#)  
2021–2024 Research assistant at Global Facility Center, Hokkaido University, Japan  
Duty: assistant manager of flow cytometer and cell sorter  
Sep, 2020 Intern student at Summer Course in Sugashima Marine Biological Laboratory, Nagoya  
University, Japan  
Supervisor: [Gohta Goshima](#)

## Education

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2022–2025 PhD in Life Science, Graduate School of Life Science at Hokkaido University, Japan  
Supervisor: Ryota Uehara  
2020–2022 MS in Life Science, Graduate School of Life Science at Hokkaido University, Japan  
Supervisor: Ryota Uehara  
2016–2020 BS in Biology, Department of Science at Hokkaido University, Japan  
Supervisor: Ryota Uehara

## Fellowship and Research Funding

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2022–2025 Hokkaido University-Hitachi Joint Cooperative Support Program for Education and Research  
(JPY 15,600,000)  
2021–2022 The Sasakawa Scientific Research Grant (JPY 640,000)

## Awards

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2023 IGP 2023 Publication Award, Graduate School of Life Science, Hokkaido University  
2023 Hamamatsu Photonics Award (Best Discussor Award), The 9th Annual Meeting of Young  
Researchers in the Japan Society for Cell Biology  
2023 Best Presentation Award, Research Meeting of Cell Biology at Hokkaido University in 2023,  
Hokkaido University  
2022 The Full refund exemption of student loan for exceptional research performance (JPY  
1,200,000), Japan Student Services Organization  
2020 IGP Award (Best Presentation Award in English), master thesis defence in Graduate School of  
Life Science, Hokkaido University

## Research Skills

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Model: Culture cells (human somatic cells, mouse embryonic stem cells)

Cell biology:	Basic cell culture, immunofluorescence, flow cytometry, cell sorting, plate reader assay, compound treatment, RNAi,
Biochemistry:	Protein purification and immunoblotting
Molecular biology:	PCR, DNA cloning, gene editing (CRISPR-Cas9), genomic DNA extraction, genome-scale CRISPR screen, NGS analysis, qPCR
Data Analysis:	ImageJ, Python, R, MATLAB, command line processing
Computation:	LaTeX, Linux, Microsoft tools

## Publications

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Link to [Google Scholar](#) and [PubMed](#)

\* Equal contribution

### Published

#### Peer-reviewed Articles

1. Ishida-Ishihara, S.\*, Yaguchi, K.\*, Miura, S.\*, Nomura, R., Wang, Q., Yoshizawa, K., Sato, K., Yang, G., Veszelyi, K., Banhegyi, G., Margittai, E., & Uehara, R. (2024).  
Fragility of ER homeostatic regulation underlies haploid instability in human somatic cells.  
**Journal of Biological Chemistry**, 300(11), 107909.
2. Sahu, S., Yoshizawa, K., Yamamoto, T., Uehara, R., & Tamaoki, N. (2024).  
Photoswitchable Auxin-Inducible Degron System for Conditional Protein Degradation with Spatiotemporal Resolution.  
**Journal of the American Chemical Society**, 146(31), 21203–21207.
3. Yoshizawa, K., Matura, A., Shimada, M., Ishida-Ishihara, S., Sato, F., Yamamoto, T., Yaguchi, K., Kawamoto, E., Kuroda, T., Matsuo, K., Tamaoki, N., Sakai, R., Shimada, Y., Mishra, M., & Uehara, R. (2023).  
Tetraploidy-linked sensitization to CENP-E inhibition in human cells.  
**Molecular Oncology**, 17(6), 1148–1166.
  - Selected as 2023 Highlights in Molecular Oncology.
  - Ranked within the top 10% of most-viewed papers published in Molecular Oncology in 2023.
4. Yaguchi, K., Sato, K., Yoshizawa, K., Mikami, D., Yuyama, K., Igarashi, Y., Banhegyi, G., Margittai, E., & Uehara, R. (2021).  
Mevalonate Pathway-mediated ER Homeostasis Is Required for Haploid Stability in Human Somatic Cells.  
**Cell Structure and Function**, 46(1), 1–9.
5. Yoshizawa, K., Yaguchi, K., & Uehara, R. (2020).  
Uncoupling of DNA Replication and Centrosome Duplication Cycles Is a Primary Cause of Haploid Instability in Mammalian Somatic Cells.  
**Frontiers in Cell and Developmental Biology**, 8, 721.

#### Book Chapters

1. Yoshizawa, K. & Uehara, R. (2025).  
Comparative Pharmacological Analysis of Mitotic Inhibitors Using Isogenic Ploidy Series of HAP1 Cells.  
**Methods in Molecular Biology**, 2872:207–219.

## Presentations

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1. Yoshizawa, K. & Uehara, R. (Nov 2023).  
Haploidy-linked insufficiency of pericentriolar material (PCM) protein causes a genome instability in human somatic cells (poster).  
The 61st Annual Meeting of the Biophysical Society of Japan, Nagoya, Japan.
2. Yoshizawa, K. (Aug 2023).  
Heterogeneity of drug response in a series of isogenic human tetraploid cancer cell lines (poster).  
The 1st Hokkaido Bio "Mix-up", Sapporo, Japan.
3. Yoshizawa, K., Matura, A., Shimada, M., Ishida-Ishihara, S., Yamamoto, T., & Uehara, R. (Jul 2023).  
Ploidy-linked changes in dependency on mitotic motor proteins in human cell (poster).

- The 49th Naito Conference on “Frontiers of Microtubule and Its-Related Motors: Atomic Structures, Cellular Functions, Development and Diseases”, Sapporo, Japan.
4. Yoshizawa, K. & Uehara, R. (Jun 2023).  
Establishing haploidy-stable human somatic cells by artificial reinforcement of acentrosomal pathway (poster).  
The 75th Annual Meeting of the Japan Society for Cell Biology, Nara, Japan.
  5. Yoshizawa, K., Shimada, M., Ishida-Ishihara, S., Yamamoto, T., & Uehara, R. (Mar 2023).  
Tetraploidy-linked sensitization to CENP-E inhibition in human cells (talk)  
Research Meeting of Cell Biology at Hokkaido University 2023, Sapporo, Japan.
  6. Yoshizawa, K., Shimada, M., Yamamoto, T., & Uehara, R. (Jun 2022).  
Selective growth suppression of tetraploid cells by inhibition of mitotic kinesin CENP-E (talk).  
The 74th Annual Meeting of the Japan Society for Cell Biology, Tokyo, Japan.
  7. Yoshizawa, K. & Uehara, R. (Dec 2021).  
Haploid human somatic cells are vulnerable to perturbations of spindle bipolarity (talk and poster)  
The 44th Annual Meeting of the Molecular Biology Society of Japan, Yokohama, Japan.
  8. Yoshizawa, K., Shimada, M., & Uehara, R. (Mar 2021).  
Abnormal spindle formation with changes in drug sensitivity caused by chromosome gain/loss (talk).  
Research Meeting of Cell Biology at Hokkaido University 2021, Online, Japan.
  9. Yoshizawa, K., Yaguchi, K., & Uehara, R. (Jun 2021).  
Stabilization of the haploid state in human somatic cells through artificial recoupling of centriole duplication cycle with DNA replication cycle (talk and poster).  
The 72nd Annual Meeting of the Japan Society for Cell Biology, Online, Japan.
  10. Yoshizawa, K., Yaguchi, K., & Uehara, R. (Mar 2020).  
Stabilization of the haploid state in human somatic cells (poster).  
Interdisciplinary meetup, Sapporo, Japan.
  11. Yoshizawa, K., Shimada, M., & Uehara, R. (Aug 2019).  
Selective growth suppression in polyploid cells by paclitaxel at clinically relevant concentration (talk).  
The 1st Hungary-Japan Joint Meeting on Cellular/Molecular Dynamics, Sapporo, Japan.

## Patent

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1. Tamaoki, N., Sahu, S., Uehara, R., & Yoshizawa, K.  
Compound, agent, method and kit of protein degradation control  
Submitted, 2024-073342

## Memberships in Scientific Societies

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2021–Present Young Meeting in the Biophysical Society of Japan  
2021–Present Japan Society for Cell Biology  
2021–Present The Molecular Biology Society of Japan