Miwako Kato Homma, Ph.D.

Special Research Fellow, Former Associate Professor
Department of Biomolecular Sciences, Fukushima Medical University School of Medicine
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Member of the National Research & Developmental Agency Council of MEXT
Education Research Advisor, Southern TOHOKU Research Institute for Neuroscience

Areas of Expertise
Cancer Cell Signaling, Protein Kinase CK2, Phospho-Proteomics, Molecular Biology, Epigenetics

Education, Research and Professional Experiences (Born in Tokyo Japan)

MSc in Medical Science, Faculty of Medicine, The University of Tokyo
PhD in Medical Science, Dept. Biochemistry, Faculty of Medicine, The University of Tokyo
JSPS fellowship for Japanese Junior Scientists
Research Associate at the Dept. of Hygiene & Oncology, Tokyo Medical & Dental University
Research Associate at the Dept. of Immunology, Fukushima Medical University School of Medicine
Research Associate at the Department of Biomolecular Sciences, and then Associate Professor at FMU
Visiting Scientist at Univ. Washington, Seattle (Professor Edwin G. Krebs, and Professor John D. Scott)
Visiting Scientist at Univ. Colorado, Boulder (Professor Natalie G Ahn)
Fellow, Center for Research and Development/ Japan Science and Technology Agent
Subcommittee Member of the Quantum Science and Technology, Research and Development Organization, National Research and Development Corporation Council

Membership of Academic Societies:
The Japanese Biochemical Society (Councilor, 2009-2014)
The Molecular Biology Society of Japan (Secretory General, 2013-2016)
The Japanese Association for Cancer Research (Councilor, 2022-2024)
The American Association for the Advancement of Science
The American Society for Biochemistry and Molecular Biology
The American Society for Pharmacology, Editorial Associate Board of *Molecular Pharmacology* (2016-)
Associate Editor of *Cancer Science* (2022-)

Awards:
Nissan Science Foundation, Yamada Science Foundation, The Japan Foundation for Aging and Health
The Society for Japanese Women Scientists, Promising Scientific Award
Fukushima Medical University School of Medicine, Faculty's Encouragement Award

Related Links
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FMU: https://www.fmu.ac.jp/kenkyu/html/157_en.html
Gender Equality Bureau Cabinet Office Japan: http://wwwb.cao.go.jp/yakuin/cor004/index/137
https://www.gender.go.jp/public/event/2013/pdf/flyer_renkei0202.pdf

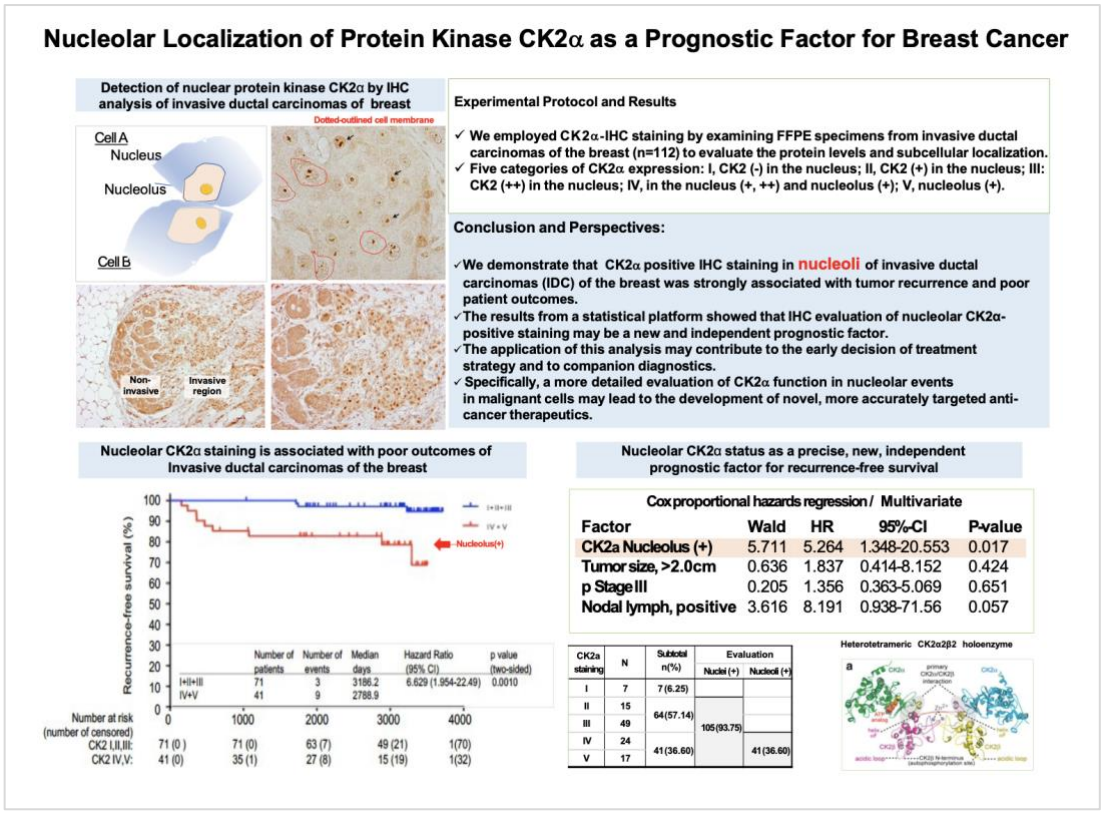
Bio-sketch:
Dr Homma has been studying intracellular signaling pathways, especially phosphorylation, in order to understand pathogenesis of various diseases. She earned her M.Sc. and Ph.D. degrees from The University of Tokyo, where she conducted biochemical research on phosphatidyl inositol metabolism activated by *v-erbB*, supervised by Dr. Tadaomi Takenawa, Professor Kumao Toyoshima, Professor Sadaaki Kawai and Dr. Tadashi Yamamoto. She then obtained a faculty position at Tokyo Medical and Dental University (Professor Yasuhito Yuasa), where she investigated molecular functions of a causative gene of familial adenomatous polyposis, APC, and found that APC interacts with protein kinase CK2. She is currently engaged in research and development of intellectual property, along with medical and graduate school education.

Research Topics and Objectives:

We have been studying intracellular signaling pathways, especially phosphorylation signaling, in order to understand the pathogenesis of various diseases. We have found that the changes in activity and intracellular dynamics of protein kinase CK2 are associated with the prognosis of cancer recurrence, and are investigating the underlying molecular mechanisms of CK2 using molecular biology, proteomics, and bioinformatics, as well as developing highly sensitive CK2 detection methods. Our goals are to discover target molecules that inhibit cancer recurrence due to malignant transformation, so as to clarify the scientific basis for translational research at the biomolecular level. We will also strive to nurture individuals who understand basic research and global trends, who will dedicate their lives to advancing original science.

Research Outline:

CK2 (Casein kinase 2/II), is a proliferation-related, serine/threonine kinase found in all eukaryotic cells and is essential for survival. Our group has discovered that CK2 migrates from the cytoplasm to the nucleus when the cell cycle of normal fibroblasts synchronously progresses to the proliferative phase. We also found a growth stimulus-dependent increase in CK2 activity in both the cytoplasm and the nucleus. Furthermore, we found that CK2 activity is regulated by *in vivo* interaction with APC protein, a tumor suppressor gene product. We learned that eIF5 (a eukaryotic translation initiation factor) is a CK2 target molecule during the proliferative phase, and also found that eIF5 contributes to normal cell cycle progression after it is phosphorylated by CK2. In addition, by analyzing human breast cancer surgical specimens, we discovered that an increase in CK2 expression in cancer cell nuclei and an accumulation of CK2 molecules in the nucleolus are associated with a poor prognosis (recurrence) of breast cancer. Statistical analysis of CK2 staining results ~~using~~ revealed that CK2 nucleolar accumulation is the only independent variable that determines the length of recurrence-free survival (recurrence after several years). Therefore, we filed a patent application in 2019 and a PCT application in 2020 for CK2 as a novel marker for cancer prognosis, and we are now in the process of transferring the application to overseas countries. We are currently analyzing the relationship between CK2 nuclear accumulation and cancer recurrence in solid tumors other than breast cancer.



Furthermore, using ChIP-Seq analysis and other molecular biological methods to investigate CK2 function, we have revealed that CK2α is involved in epigenetic regulation of transcription in a cell cycle-dependent manner. Therefore, we are currently conducting molecular biological studies using various invasive cancer cell lines and clinical samples to determine how CK2 activates specific gene expression and translational processes, and consequently contributes to pathological conditions such as cancer progression (recurrence). We have also started to utilize multiplex-staining and tissue transparency techniques as well as integrative studies involving bioinformatics, proteomics, CK2α-ChIP-Seq, single cell RNA, and spatial transcriptomics (spatial RNA expression analysis).

Our group understands and adheres to scientific research ethics and is committed to research and education.

Research Accomplishments

1. Development of biomarkers for cancer prognosis:

Prevention of cancer progression, such as tissue invasion and metastasis, which might be observed months after cancer resection, is important to maintain physiological functions for human well-being. We are conducting research to develop new biomarkers that are expected to be more sensitive and precise than current clinical staging and prognostic indicators, as well as to reveal the intracellular functions of these markers.

(Homma, M.K., et al. *Cancer Science* 2021, Homma, M.K., et al. *Lancet Onc (Abstract) 2022,* Muto, s. et al. *Oncology Rep 2025*)

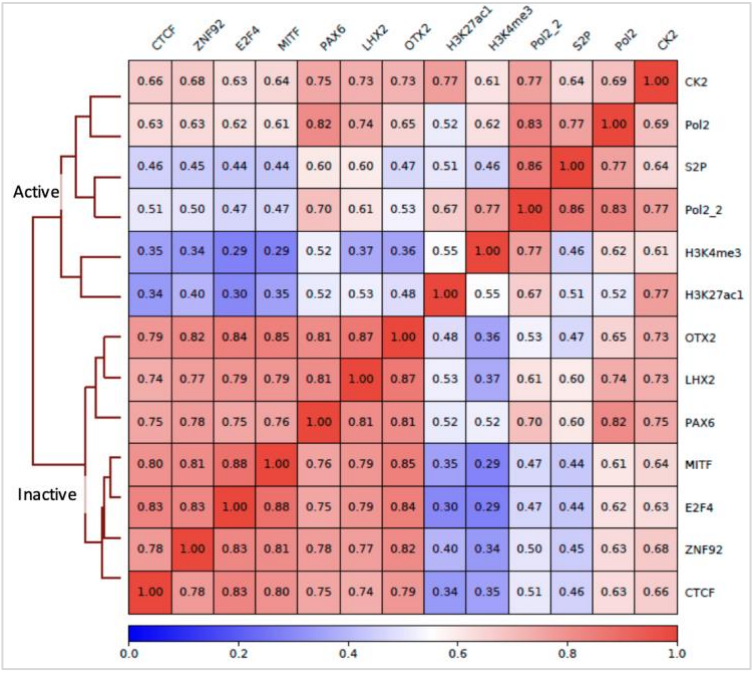
2. Comprehensive analysis of phosphorylation signaling associated with proliferative diseases:

Follicular liver cancer (FL-HCC), a rare juvenile disease, is thought to be associated with a mutated gene, DNAJB1-PKAC, which consists of DNAJB1 fused to the catalytic site of protein kinase A (PKA) enzyme. We are analyzing oncogenic signals using a phospho-proteomics approach employing the gene-expressing cell lines to identify cancer-driver gene-specific pathways.

(Kevin, M., et al. *Pediatrics* 2016, Matsusaki, S et al. a manuscript in preparation for submission)

3. Cell signaling driven by protein kinases for progression of the cell cycle:

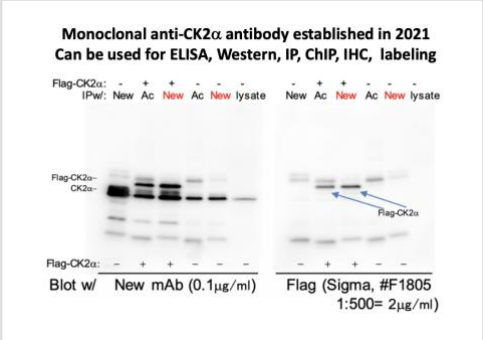
We have found that APC protein, the causative gene product of familial adenomatous polyposis (FAP), interacts with CK2 and that APC is an upstream regulator of CK2 catalytic activity. Furthermore, we revealed that CK2 phosphorylates eukaryotic translational initiation factor eIF5 during a cell cycle progression as a downstream signaling molecule, and clarified the mechanism by which CK2 is involved in cell cycle progression. We recently published a study showing that phosphorylated CK2 translocates from the cytosol to the nucleus where CK2 is recruited to the active gene promoter locus.



(Homma, M.K., et al. *PNAS* 2002; Homma, M.K., *PNAS* 2005; Homma, M.K., et al. *Life Science Alliance* 2024)

Patents

Focusing on proliferation associated protein kinase CK2, we have observed the intracellular migration of CK2 to the nucleus during progression of the normal cell cycle *in vivo*. However, when we analyzed breast cancer specimens, we found for the first time that extremely clear nucleolar accumulation of the kinase, CK2, was associated with cancer recurrence (poor prognosis) of invasive breast cancer. Statistical analysis of CK2-staining using surgical specimens revealed that it is the only independent variable that determines clinical outcome. Therefore, we filed a patent application in 2019 and a PCT application in 2020 for this novel marker for cancer prognosis. In addition, we are analyzing molecular and biochemical properties of nuclear accumulation of CK2 in human solid tumors.



Our research is based on the connection between basic molecular science and pathological medicine, and we have filed applications for patents in 2019 (methodology development, PCT application in 2020) and 2022 (monoclonal antibodies, PCT application in 2023).
IP of #2021-567655: "PROGNOSTIC BIOMARKER OF CANCER" has been licensed on 11 June 2025.

Message to students:

Our group understands and adheres to scientific research ethics and is committed to research and education.
We expect graduate and undergraduate students who are interested in our projects, to be an active researcher. We seek to encourage their scientific curiosity through interactions with colleagues and distinguished scientists overseas, and to act in accordance with research ethics.
Our research is based on the connection between basic molecular science and pathological medicine, and we have filed applications for patents in 2019 (methodology development, PCT application in 2020) and 2022 (monoclonal antibodies, PCT application in 2023). We hope that all of you who pursue a career in medicine will develop the skill to read original papers in English, to have a broad and thorough understanding of life sciences, and to mature to contribute to the advancement of biomedical science. Scientific research can only be understood when you are engaged in it. We will strive to support you so that you will be able to work with full confidence.

Recruitment Requirements for the Graduate School of Medicine (Doctoral Program):

Focusing on proliferation associated protein kinase CK2, we have observed the intracellular migration of CK2 to the nucleus during progression of the normal cell cycle *in vivo*. However, when we analyzed breast cancer specimens, we found for the first time that extremely clear nucleolar accumulation of the kinase, CK2, was associated with cancer recurrence (poor prognosis) of invasive breast cancer. Statistical analysis of CK2-staining using surgical specimens revealed that it is the only independent variable that determines clinical outcome. Therefore, we filed a patent application in 2019 and a PCT application in 2020 for this novel marker for cancer prognosis. In addition, we are analyzing molecular and biochemical properties of nuclear accumulation of CK2 in human solid tumors.

We are currently conducting research to discover mechanisms of cancer progression. As we have shown by molecular biological methods that CK2 is involved in epigenetic transcriptional regulation, integrative bioinformatics tools such as RNA-seq, ChIP-seq, phospho-proteomic and single-cell RNA analysis are also being conducted in order to learn how CK2 is involved in expression and translation of specific genes.

Publications (Selected):

1. Takeru Torii, Mako Sumida, Atsushi Kobayashi, Toshiyuki Goto, Ryosuke Suziki, Shin Kuwamoto, Wataru Nakajima, Wataru Sugimoto, Kohei Takeuchi, Yuma Tanaya, Masayuki Tera, Nobuyuki Tanaka, Hiroaki Hirata, Hisae Karimata-Tateishi, Takahito Nishikata, **Miwako Kato Homma**, Daisuke Miyoshiand Keiko Kawauchi. Loss of p53 provokes NF-kB-dependent disruption of nucleolar cap and nucleolplasmic redistribution of fibrillarin during nucleolar stress. ***Biomolecules*** 16(2):296. doi: 10.3390/biom16020296 (2026).
2. Satoshi Muto, **Miwako K. Homma**, Yuichiro Kiko, Y Ozaki, M Watanabe, N Okabe, K Hamada, Yuko Hashimoto, Hiroyuki Suzuki. Nucleolar CK2α as a prognostic factor in patients with surgically resected early-stage lung adenocarcinoma ***Oncology Report*** November 6 https://doi.org/10.3892/or.2024.8837 (2025).
3. **Miwako K. Homma**, Ryuichiro Nakato, Atsushi Niida, Masashige Bando, Katusnori Fujiki, Naoko Yokota, So Yamamoto, Takeshi Shibata, Motoki Takagi, Junko Yamaki, Hiroko Kozuka-Hata, Masaaki Oyama, Katsuhiko Shirahige, Yoshimi Homma. Cell cycle-dependent gene networks for cell proliferation activated by nuclear CK2α complexes Life Science Alliance 7: e202302077 doi:10.26508/lsa.202302077 (2024).
4. **Miwako K. Homma,** Yuko Hashimoto, Yoshimi Homma, Tadashi Nomizu. CK2α as a prognostic factor in invasive ductal carcinomas of the breast: cancer recurrence prognosis by surgical sampling. *The Lancet Oncology* 23: S25 (Abstract) doi:10.1016/ s1470-2045(22)00424-7 (2022).
5. **Miwako K. Homma,** Yuichiro Kiko, Yuko Hashimoto, Miki Nagatsuka, Naoto Katagata, Sei-ichiro Masui, Yoshimi Homma, Tadashi Nomizu. Intracellular localization of CK2α as a prognostic factor in invasive breast carcinomas. ***Cancer Science*** 112 (2): 619-628 (2021).
6. Kevin M. Riggle, Kimberly J. Riehle, Heidi L. Kenerson, Rigney Turnham, **Miwako K. Homma**, Machiko Kazami, Bret Samelson, Renay Bauer, G. Stanley McKnight, John D. Scott and Reymond S. Yeung. Enhanced cAMP-stimulated protein kinase A activity in human fibrolamellar hepatocellular carcinoma. ***Pediatric Res*** 80 (1):110-8 (2016).
7. **Miwako K. Homma,** Takeshi Shibata, Toshiyuki Suzuki, Masato Ogura, Hiroko Kozuka-Hata, Masaaki Oyama and Yoshimi Homma. Role for protein kinase CK2 on cell proliferation: Assessing the components of the CK2 complex in the nucleus during the cell cycle progression. ***Protein Kinase CK2 Cellular Function in Normal and Disease States, Advs in Biochemistry in Health and Disease, Vol 12,*** *Eds. by Khalil Ahmed et al.,* Springer International Publishing Switzerland. P.197-226 (2015).
8. Toshiyuki Suzuki, Haruhisa Kikuchi, Masato Ogura, **Miwako K. Homma**, Yoshiteru Oshima and Yoshimi Homma. Weight loss by a novel small-molecule, Ppc-1, derived from slime mold. ***PLOS One*** 10(2): e0117088 (2015).
9. Masato Ogura, Junko Yamaki, **Miwako K. Homma** and Yoshimi Homma. Phosphorylation of flotillin-1 by mitochondorial c-Src is required to prevent the production of reactive oxgen species. ***FEBS Letters,*** 588 (17): 2837-43 (2014).
10. **Miwako K. Homma**, Reiko Motohashi, and Hisako Ohtsubo. Japan's lagging gender equality. ***Science*** (Commentary) 340: 428- 429 (2013).
11. Masato Ogura, JunkoYamaki, **Miwako K. Homma,** and Yoshimi Homma. Mitochondrial c-Src regulates cell survival through phosphorylation of respiratory chain components. ***Biochem J.***, 447 (2): 281-289 (2012).
12. **Miwako K. Homma**, Reiko Motohashi, and Hisako Ohtsubo. Maximizing the potential of scientists in Japan: Promoting equal participation for women scientists through leadership development. ***Genes to Cells***, 18: 529-532 (2013).
13. **Miwako K. Homma** and Yoshimi Homma. Cell Cycle and activation of CK2. ***Mol Cell Biochem*** 316(1-2):49- 55 (2008).

14. **Miwako K. Homma,** Ikuo. Wada, Toshiyuki Suzuki, Junko Yamaki, Edwin G. Krebs and Yoshimi Homma**.** CK2 phosphorylation of eukaryotic translation initiation factor 5 potentiates cell cycle progression. ***Proc Natl Acad Sci USA*****,** 102(43): 15688-15693 (2005).
15. **Miwako K.Homma** and Yoshimi Homma. Regulatory role of CK2 during the progression of cell cycle. ***Mol Cell Biochem*** 274(1-2): 46-52 (2005).
16. **Miwako K. Homma**, Dongxia Li, Edwin G. Krebs, and Yoshimi Homma. Association and regulation of casein kinase 2 activity by adenomatous polyposis coli protein. ***Proc Natl Acad Sci USA***., 99(9): 5959-5964 (2002).
17. **Miwako K. Homma**, Motoo Yamasaki, Shinobu Ohmi-Imajoh, and Yoshimi Homma. Inhibition of phosphoinositide hydrolysis and cell growth of Swiss 3T3 cells by myristoylated phosphoinositide phospholipase C inhibitor peptides. ***J Biochem*** 122: 738-742 (1997).
18. **Miwako K. Homma**, Yoshimi Homma, Moto-o Yamasaki, Shinobu Ohmi-Imajoh, and Yasuhito Yuasa. Growth inhibition by phospholipase C inhibitor peptides of colorectal carcinoma cells derived from familial adenomatous polypoasis. ***Cell Growth & Differentiation*** 7: 281-288 (1996).
19. Yoshio Terada, Kimio Tomita, **Miwako K. Homma**, Hiroshi Nonoguchi, Tianxin Yang, Takehisa Yamada, Yasuhito Yuasa, Edwin G. Krebs, and Fumiaki Marumo. Sequential activation of MAP kinase cascade by angiotensin II in opossum Kidney cells. ***Kidney Internat*** 48: 1801-1809 (1995).
20. Yoshio Terada, Kimio Tomita, **Miwako K. Homma**, Hiroshi Nonoguchi, Tiaxin Yang, Takehisa Yamada, Yasuhito Yuasa, Edwin G. Krebs, and Fumiaki Marumo. Sequential activation of Raf-1 kinase, MAP kinase kinase, MAP kinase, and S6 kinase by hyperosmolality in renal cells. ***J Biol. Chem*** 269: 312996-31301 (1994).
21. **Miwako K. Homma**, Yoshimi Homma, Masayoshi Namba, and Yasuhito Yuasa. Enhanced phosphoinositide metabolism in colorectal carcinoma cells derived from familial adenomatous polyposis patients. ***J Cell Biochem*** 55: 477-485 (1994).
22. Katrina C. Gause, **Miwako K. Homma**, Karen A. Licciardi, Rony Sager, Natalie G. Ahn, Marsha J. Peterson, Edwin G. Krebs, and Kathryn E. Meier. Effects of phorbor ester on mitogen-activated protein kinase activity in wild-type and phorbor ester-resistent EL4 thymoma cells. ***J Biol Chem*** 268: 16124-16129 (1993).
23. **Miwako Kato** and Tadaomi Takenawa. Purification and characterization of membrane-bound and cytosolic forms of diacylglycerol kinase from rat brain. ***J Biol Chem*** 265: 794-800 (1990).
24. Yasuhito Yuasa, Takashi Kamiyama, **Miwako Kato**, Takeo Iwama, Tatsuro Ikeuchi, and Akira Tonomura. Transforming genes from familial adenomatous polyposis patient cells detected by a tumorigenicity assay. ***Oncogene*** 5: 589-596 (1990).
25. Tadaomi Takenawa, **Miwako Kato**, and Akio Yamakawa. Phosphatidylinositol kinase and cell transformation., ***Adv. Second Messenger and Phosphoprotein Research***, Edit. by Yasutomi Nishizuka, Raven Press Inc. p.317-322 (1989).
26. **Miwako Kato**, Sadaaki Kawai, and Tadaomi Takenawa. Dissapearance of phorbol acetate-induced translocation of diacylglycerol kinase in erbB-transformed cells. ***FEBS Letters*** 247: 247-250 (1989).
27. **Miwako Kato**, Tadaomi Takenawa, and Daniel R.Twardzik. Effect of transforming growth factor-alpha on inositol phospholipid metabolism in human epidermal carcinoma cells. ***J Cell Biochem*** 37: 339-346 (1988).
28. **Miwako Kato**, Sadaaki Kawai, and Tadaomi Takenawa. Altered signal transduction in erbB-transformed cells. An implication of enhanced inositol phospholipid metabolism in erbB-induced transformation. ***J Biol Chem*** 262: 5696-5704 (1987).

29. **Miwako Kato**, Yoshimi Homma, Yoshitaka Nagai and Tadaomi Takenawa. Epidermal growth factor stimulates diacylglycerol kinase activity in isolated plasma membrane vesicles from A431 cells. ***Biochem Biophys Res Commun*** 129: 375-380 (1985).
30. Tadaomi Takenawa, Jun-ichi Ishitoya, Yoshimi Homma, **Miwako Kato**, and Yoshitaka Nagai. Role of enhanced inositol phospholipid metabolism in neutrophil activation. ***Biochem Pharmacol*** 34: 1931-1936 (1985).

International Conference, Scientific Meetings (Selected):

1. **Miwako K. Homma** Cell cycle-dependent activation and genomic recruitment of protein kinase CK2; a prognostic factor for cancer recurrence. ***The 26th International Charles Heidelberger Symposium on Cancer Research*** (Invited Talk) Queens Univ. Belfast England October 2024.
2. **Miwako K. Homma** Molecular function of nuclear CK2 during the cell cycle progression. ***The 9th International Conference on Protein Kinase CK2*** (Invited Talk) Muenster Germany September 2024.
3. **So Yamamoto, Yoshimi Homma, Miwako K. Homma** Gene Transcription by CK2 Recruitment: Integrative Analysis of RNA-Seq and CK2-ChIP-Seq Data. *The 9th International Conference on Protein Kinase CK2* Muenster Germany September 2024.
4. **Miwako K. Homma** CK2α as a cancer recurrence prognostic factor for solid carcinomas. ***The 2nd JCA-AACR Precision Cancer Medicine International Conference*** Kyoto June 2023
5. **Miwako K. Homma** CK2α in the nucleoli as a prognostic factor for solid carcinomas. ***The 25th International Charles Heidelberger Symposia on Cancer Research*** Hiroshima November 2023.
6. **Miwako K. Homma**, Yuko Hashimoto, Yoshimi Homma, Tadashi Nomizu CK2α as a prognostic factor in invasive ductal carcinomas of the breast: cancer recurrence prognosis by surgical sampling. ***Lancet Summit:Cancer Care in Asia and Latin America*** (Webinar) July 2022.
7. **Miwako K. Homma**, Yuko Hashimoto, Tadashi Nomizu, Yoshimi Homma. Association of nucleolar CK2α with poor prognosis for breast carcinomas. ***Overcoming Therapy Resistance in Cancer: Cell Symposium*** (Webinar) November 2021.
8. **Miwako K. Homma**, Yuko Hashimoto, Yoshimi Homma, Tadashi Nomizu. Evaluation of nucleolar CK2-positive staining as a new prognostic factor for invasive ductal carcinomas of the breast. ***Emerging Roles of the Nucleolus: American Society for Biochemistry and Molecular Biology Meeting*** (Webinar) October 2021.
9. **Miwako K. Homma**, Yuko Hashimoto, Tadashi Nomizu, Yoshimi Homma. Nuclear localization of protein kinase CK2 as a prognostic factor for breast cancer. ***The 79th Annual Meeting of Japan Cancer Association*** (Oral English Session) (Webinar) October 2020.
10. **Miwako K. Homma**, Ryoya Mashiko, Yoshimi Homma. Alterations of intracellular signal transduction system in a rare liver carcinoma. ***The 78th Annual Meeting of Japan Cancer Association*** (Oral English Session) Kyoto Japan, 27 September 2019.
11. **Miwako K. Homma,** Yoshimi Homma. Phosphoproteomics analysis of nuclear protein kinase complexes associating with growth-related gene expressions. ***The 77th Annual Meeting of Japan Cancer Association*** (Oral English Session) Osaka Japan, 29 September 2018.
12. **Miwako K. Homma** and Ushio Kikkawa. Organized a session entitled ***"Protein Kinase Signaling System: Integrative studies of physiological approach and phospho-protein analysis"*** *at ConBio2017* held in Kobe, 2017.
13. **Miwako K Homma,** Daisuke Higo, Junko Yamaki, Masato Ogura and Yoshimi Homma. Proteomic analysis implicates protein kinase CK2 in the nuclear signaling in the cell cycle. ***The 8th International Conference on Protein Kinase CK2*** (Invited) Homburg Germany, Sept 2016**.**

14. **Miwako K. Homma**, Function of protein kinase CK2 on cell cycle progression. ***The 21st International Charles Heidelberger Symposium on Carcinogenesis*** (Invited Talk) Moscow Russia, May 2016.
15. **Miwako K Homma** Role of protein kinase CK2 on cell cycle progression. ***University of Washington and Kobe University International Joint Symposium*** (Invited Talk) Kobe Japan, Dec. 2014.
16. **Miwako K. Homma**, Takeshi Shibata, Junko Yamaki and Yoshimi Homma. Protein kinase CK2: its role in cell proliferation and cell cycle progression. ***The 20th International Charles Heidelberger Symposium on Carcinogenesis*** Arica Chili, Oct. 2014.
17. **Miwako K Homma,** Junko Yamaki and Yoshimi Homma. Important role of intramolecular phosphorylation for CK2 activity. ***The 7th International Conference on Protein Kinase CK2*** (Invited Talk) Lublin, Poland, Sept. 2013**.**
18. Yoshimi Homma, Masaaki Oyama, Yuko Hata, Junko Yamaki and **Miwako K. Homma**. Proteomics analysis of CK2 interacting proteins during the progression of cell cycle. ***The 7th International Conference on Protein Kinase CK2*** (Invited Talk) Lublin Poland, Sept. 2013.
19. **Miwako K. Homma,** Radiation dose measured and emergency medical care performed at FMU after the disaster. *2012 Conference on Yukawa Institute for Theoretical Physics at Kyoto University* (Invited Talk) Kyoto Japan, Aug. 2012.
20. **Miwako K. Homma,** Masaaki Oyama, Yuko Hata and Yoshimi Homma. N-terminal region of CK2 is involved in the regulation of catalytic activity during the progression of cell cycle. ***Cold Spring Harbor Laboratory Meeting on PDB*** New York USA, Oct. 2011.
21. **Miwako K. Homma,** Junko Yamaki and Yoshimi Homma. Involvement of CK2 phosphorylation for its activity and nuclear localization during the cell cycle progression of normal human fibroblasts. ***Keystone Symposia on Molecular and Cellular Biology, The Evolution of Protein Phosphorylation*** Colorado USA, Jan. 2011.
22. **Miwako K. Homma.** Equal opportunity in leadership activities of academic societies. ***International Meeting to Maximize the Potential of Scientists at Academia*** (Invited Talk) Sapporo Japan, Sept. 2011.
23. **Miwako K. Homma.** Balancing career and family lives. ***National Science Foundation Round Table Meeting on Gender Equality*** (Invited Talk) Sapporo Japan, Feb. 2009.
24. **Miwako K. Homma**, Ikuo Wada and Yoshimi Homma. Regulatory mechanisms involved in the activation of nuclear CK2. ***The 14th Meeting on Protein Phosphorylation and Cell Signaling*** La Jolla USA, Aug. 2008.
25. **Miwako K. Homma**, Ikuo Wada and Yoshimi Homma. CK2 changes its cellular localization during the progression of cell cycle. ***Cold Spring Harbor Laboratory Meeting on Cell Cycle*** New York USA, May 2008.
26. **Miwako K. Homma** and Yoshimi Homma. Cell cycle-regulated phosphorylation and nuclear translocation of CK2. ***5th International Conference on Protein Kinase CK2, Protein Kinase CK2 and Disease*** (Invited Talk) Padova Italy, Sept. 2007.
27. **Miwako K. Homma** and Yoshimi Homma. Inhibition of CK2 activity by adenomatous polyposis coli (APC) protein. ***Cold Spring Harbor Laboratory Meeting on Phosphorylation, Signaling and Disease*** New York USA, May 2007 (Selected for Oral Presentation).
28. **Miwako K. Homma** and Yoshimi Homma. Cell cycle-regulated phosphorylation and nuclear translocation of CK2. ***IUBMB Symposium*** Kyoto Japan, Jun. 2006.
29. **Miwako K. Homma** and Yoshimi Homma. Cell cycle-regulated phosphorylation and nuclear localization of CK2. ***Cold Spring Harbor Laboratory Meeting on Cell Cycle*** New York USA, May 2006.
30. **Miwako K. Homma** and Yoshimi Homma. Role of CK2 during the progression of cell cycle. ***2005 Miami Nature Biotechnology Winter Symposium*** Miami USA, Feb. 2005.

31. **Miwako K. Homma** and Yoshimi Homma. Regulatory role of CK2 during progression of cell cycle. ***The 4th International Conference on Protein Kinase CK2*** (Invited Talk) Ontario Canada July 2004.
32. **Miwako K. Homma** and Yoshimi Homma. Protein kinases involved in the regulation of cell cycle progression. ***Gordon Research Conferences on Molecular and Genetic Basis of Cell Proliferation*** New Hampshire USA, Jun.1999.
33. **Miwako K. Homma**, Motoo Yamasaki, Shinobu Ohmi-Imajoh, and Yoshimi Homma. Inhibition of phosphoinositide hydrolysis and cell growth of Swiss 3T3 cells by myristoylated phospholipase C inhibitor peptides. ***Cellular Regulation by Protein Phosphorylation: Forty Years of Progress*** Seattle USA, Sept. 1997.
34. **Miwako K. Homma**, Yoshimi Homma, Motoo Yamasaki, Masayoshi Namba, Shinobu Ohmi-Imajoh, and Yasuhito Yuasa. Involvement of phospholipase C activity in growth of human colorectal carcinoma cell lines derived from familial adenomatous polyposis patients. ***The Eighth International Conference of the International Society of Differentiation*** Hiroshima Japan 1994.
35. **Miwako K. Homma**, Yoshimi Homma, Masayoshi Namba, amd Yasuhito Yuasa. Enhancement of PLC activities by tyrosine phosphorylation in human colorectal carcinomas. ***Keystone Symposium, Phosphorylation and Dephosphorylation in Signal Transduction*** Colorado USA Jan. 1993.
36. **Miwako Kato** and Tadaomi Takenawa. Purification and characterization of diacylglycerol kinase from rat brain. ***The 7th International Conference on Cyclic Nucleotides, Calcium, and Protein Phosphorylation*** Kobe Japan Apr. 1989.
37. **Miwako Kato**, Sadaaki Kawai, and Tadaomi Takenawa. Altered signal transduction in erb-B-transformed cells. ***UCLA Symposium on Lipid Metabolism*** Colorado USA March 1988.
38. **Miwako Kato**, Yoshimi Homma, Yoshitaka Nagai, and Tadaomi Takenawa. Epidermal growth factor stimulates diacylglycerol kinase in isolated plasma membrane vesicles from A431 cells. ***The 13th International Congress of Biochemistry*** (Selected for oral presentation), Amsterdam Holand Aug. 1985.

Reviews in Japanese

1. 来住野ひなた、松嵜正太郎、加藤遼、福田みちる、本間美和子「癌予後マーカーの開発と高感度化へ資する独自抗体について」***月刊 JETI*** vol.73, no.2, pp26-29 (2025)
2. 山元想、本間美和子 「核小体への分子集積を基盤とする癌予後マーカーの開発」 ***細胞*** ニューサイエンス社 vol 56, no.11, pp.822-824 (2024)
3. 山元想、本間美和子 「癌予後マーカーの開発と高感度化へ資する独自抗体について」 ***月刊 BioIndustry*** シーエムシー出版 vol.41, No.7 (2024)
4. 本間美和子 「総説：プロテインキナーゼ CK2 の核内機能」***生化学*** 日本生化学会 vol 96, no.5, pp. 662-675 (2024) https://seikagaku.jbsoc.or.jp/10.14952/SEIKAGAKU.2024.960662/index.html